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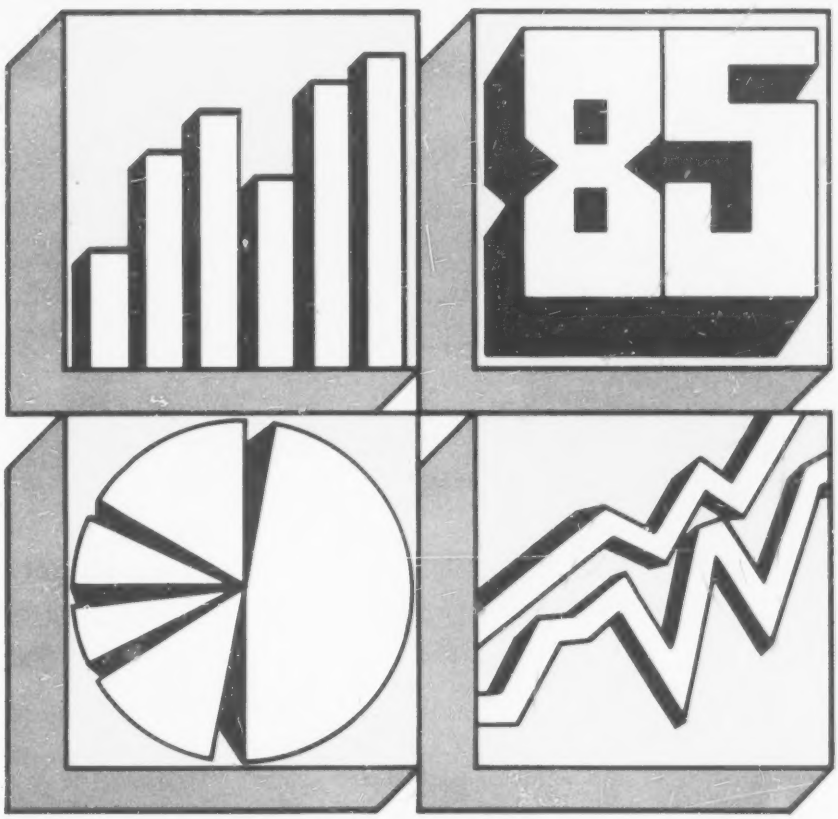
International Business Forms Industries, Inc.

PERSPECTIVE



The Present & Future of the North American Forms Industry

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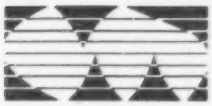

International Business Forms Industries, Inc.

PERSPECTIVE 85

This is the 1985 edition of an annual publication prepared at the direction of the IBFI Economic Research Committee for the benefit of the industry and its customers. Each edition contains a detailed review of the previous year's results and a five-year demand forecast. In addition, the results of any new research undertaken by the staff during the preceding twelve months are presented in these pages.

The author is responsible for all of the estimates and opinions in this volume. All charts and graphs are the work of the author. Every effort has been made to ensure accuracy but it of course cannot be guaranteed.

Doug Taylor

IMPLEMENTATION BY THE IBFI STAFF

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EXECUTIVE SUMMARY

1984 Was a Year of Strong Growth for the Forms Industry. The recovery for the forms industry, which began in the second half of 1983, continued strong into the first half of 1984 before faltering around mid-year; the fourth quarter, however, was an exceptionally good one for the industry, which ended the year with real growth of about 6.5%. However, in the first quarter of 1985, forms demand showed signs of softening.

Two Key Industry Trends—Fewer Parts-Per-Form and Smaller Order Sizes—Continued to Shape the Direction of Industry Growth. Through a survey of its members, IBFI has attempted to quantify these trends; this survey showed that over 50% of custom continuous shipments in 1984 were in the 1-part (32%) or 2-part category (19.5%); in the unit sets segment, 44% of shipments were three parts or less. IBFI research also indicates that the mean average order size for the larger firms in the industry (sales volume over $40 million) is about $1,400; for smaller firms (sales under $3 million), the mean average order size is $520.

1985 Will Be a Year of Continued Growth for the Forms Industry. Although 1985 will not match the performance of 1984, it will be a relatively healthy year for the industry. However, as the recovery in the general economy slows, the forms industry can expect a downturn in 1987. Projected shipment values through 1989 are provided below. As the numbers indicate, the various product segments of the forms industry are in different growth cycles.

U.S. BUSINESS FORMS SALES, 1984–89
(Millions of Jan 1, 1985 Shipment Dollars)

	1984	1985	1986	1987	1988	1989
Custom Continuous	2,476	2,599	2,703	2,771	2,890	3,037
Stock Continuous	1,280	1,423	1,558	1,637	1,743	1,898
Unit Sets	1,595	1,643	1,668	1,672	1,707	1,750
Salesbooks, Pegboard	220	250	278	302	328	359
TOTAL	5,571	5,915	6,207	6,382	6,668	7,044

Source: IBFI

1984 IN REVIEW

For both the overall U.S. economy and the business forms industry, 1984 was a year of growth as well as a year of change. The economy and the forms industry each finished the year with a robust 4th quarter performance, but with the same unanswered question lingering over their heads: *Was 1984 a bubble that is about to burst, or was it the first stage in a period of long-term growth?*

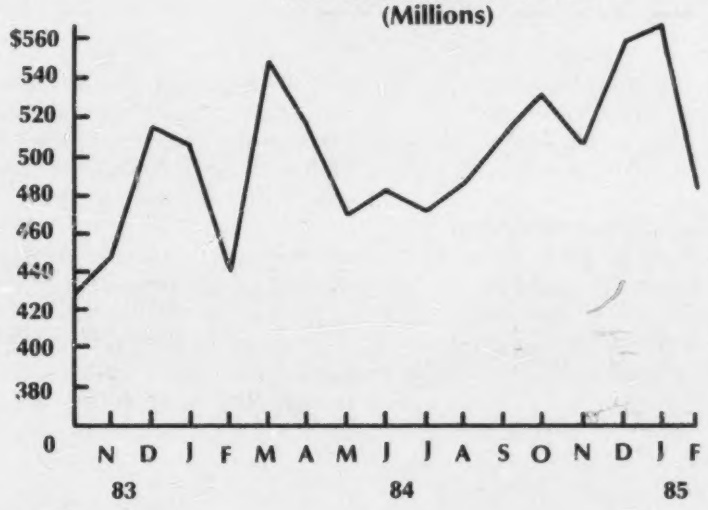
The Performance of the Forms Industry Exceeded Expectations in 1984. Figure 1 depicts the retail value of monthly forms sales in the U.S. from the last quarter of 1983 through the first two months of 1985. The graph shows there was considerable fluctuation in sales in the first half of the year, followed by the expected period of summer doldrums. Several factors could explain the early year's variation in sales; the most likely explanation is the uncertainty generated by instability in paper prices and supply.

The industry closed out the year with its customary strong 4th quarter. For the year, overall retail sales for 1984 were up 14.2% from December 1983 to December 1984, exceeding most observers' expectations by at least four to five percentage points.

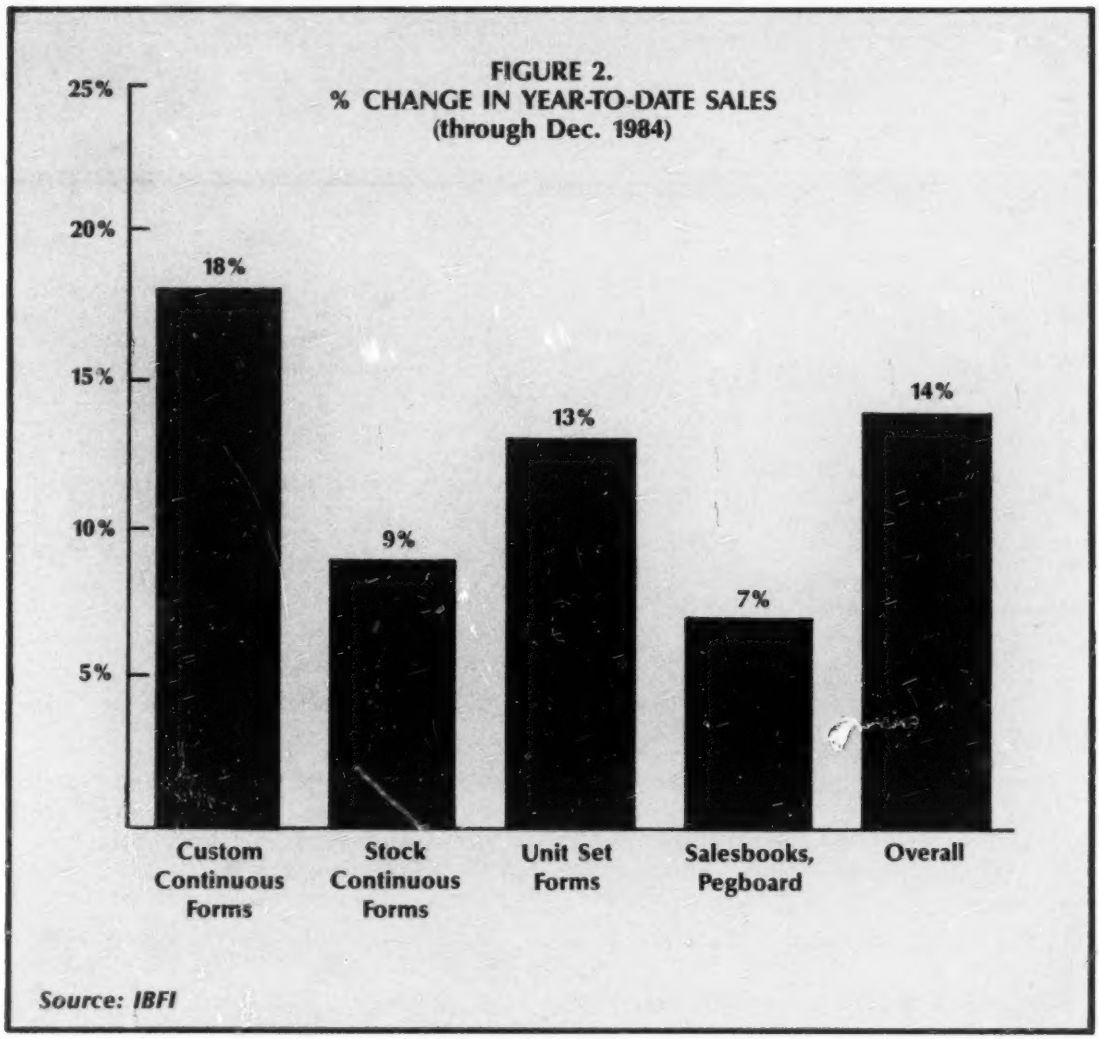
Figure 2 shows the percent change in sales for the year by product line. In interpreting this graph, it is important to be aware of the effect of price conditions on sales figures. Thus, in the stock tab segment—where the price competition was savage for much of the year—we see just a 9% increase in sales for the year, compared to a 13% increase in unit sets.

These figures obscure the fact that the increase in the actual units shipped of stock tab forms exceeded the increase in units shipped of unit sets—due to the continued penetration of the computer into the workplace. The volatility and intense competition in the stock

FIGURE 1.
MONTHLY FORMS SALES
(Millions)



Source: IBFI



continuous segment was reflected by the fact that, through the first three months of 1984, sales in this segment were up just 2% over the comparable 1983 period.

The Custom Continuous Segment Racked Up the Biggest Sales Increase in 1984. The top performer for the year, at least in terms of percentage increase of retail sales, was the custom continuous segment—which consistently ran 17-19% above 1983 sales figures.

The performance of the unit set segment of the industry was obviously helped by the overall vigor of the economy in 1984—since unit sets are primarily transaction-based forms. (The stronger the general economy, the more economic transactions will occur, producing increased demand for unit set forms.) For all of 1984, sales in the unit set segment were consistently 12-14% above 1983 sales.

The salesbook and pegboard segment lived up to its reputation as a perennial, if unspectacular, performer. Early in the year, its sales were running a surprising 13-14% above 1983 sales; by the 3rd quarter, however, it had slackened off considerably, finishing the year with a 7% increase.

REVIEW OF KEY INDICATORS: 1984

In 1984 the forms industry saw consistent improvement over the previous year in most of its key performance indicators. The following paragraphs summarize these results.

Capacity Utilization for the Industry Was Approximately 65%. Using 120 hours/week per press as standard capacity, the median capacity utilization rate for the industry was between 60% and 66% throughout 1984. However, as Table 1 shows, this number obscures the tremendous variance in utilization rates between large and small forms manufacturers. And yet, despite these large variances, companies in all volume groups reported a slump in utilization rates at mid-year; by the end of the year, however, most of this loss had been recovered, as industry sales rebounded from an unspectacular 3rd quarter performance to post a very strong 4th quarter.

TABLE 1.
CURRENT CAPACITY UTILIZATION*

	Quarter			
	I	II	III	IV
All Firms	66.7	60.6	62.2	66.3
Under $3M	41.7	36.5	36.7	38.9
$3–8M	66.7	60.0	60.0	70.4
$8–15M	69.4	63.0	61.1	61.9
$15+M	72.5	67.9	76.4	76.3

* Median only

Source: IBFI Business Conditions Survey

Average Order Backlog for the Industry Was About Three Weeks. As with utilization rates, there is a significant disparity in average order backlogs between small and large firms in the forms industry. Table 2 illustrates this gap.

Most Forms Manufacturers Maintained Five to Six Weeks of Paper Inventory and Four Weeks of Carbon Inventory. Based on the input to IBFI's quarterly Business Conditions Survey, it is estimated that in 1984 most manufacturers maintained five to six working weeks of paper inventory, and four weeks of carbon inventory. These figures show virtually no change from the 1983 results.

Low Profitability Continued to Plague the Smaller Forms Manufacturer. As Table 3 shows, firms with an annual sales volume of $15 million or less recorded similar, unspectacular gross profits per press hour in 1984. The larger firms consistently outperformed the rest of the industry in 1984, due to their superior utilization and management of forms producing equipment and other assets.

TABLE 2.
AVERAGE WEEKS OF ORDER BACKLOG

	Quarter			
	I	II	III	IV
All Firms	2.8	2.4	2.6	3.0
Under $3M	1.9	1.5	1.2	1.4
$3–8M	3.1	2.8	2.9	3.2
$8–15M	2.4	2.2	2.3	2.6
$15+M	2.8	2.9	3.2	4.3

Source: IBFI Business Conditions Survey

TABLE 3.
GROSS PROFIT PER PRESS HOUR

	Quarter			
	I	II	III	IV
All Firms	$45	$36	$38	$37
Under $3M	$41	$36	$31	$37
$3-8M	$39	$33	$36	$32
$8-15M	$39	$35	$44	$38
$15+M	$65	$45	$79	$71

Source: IBFI Business Conditions Survey

FORMS INDUSTRY PRODUCER PRICES

A new industry measurement tool became available in 1984, as the Department of Labor's Bureau of Labor Statistics (BLS) began disseminating a producer (wholesale) price index for the manifold business forms industry (SIC 2761).

The methodology behind this tool is not without its problems, as the government may be receiving both list and net price information from some of the companies it surveys; (BLS requests that they report net only). Therefore, the best way to use this tool is not as gospel for the industry but as a broad indicator.

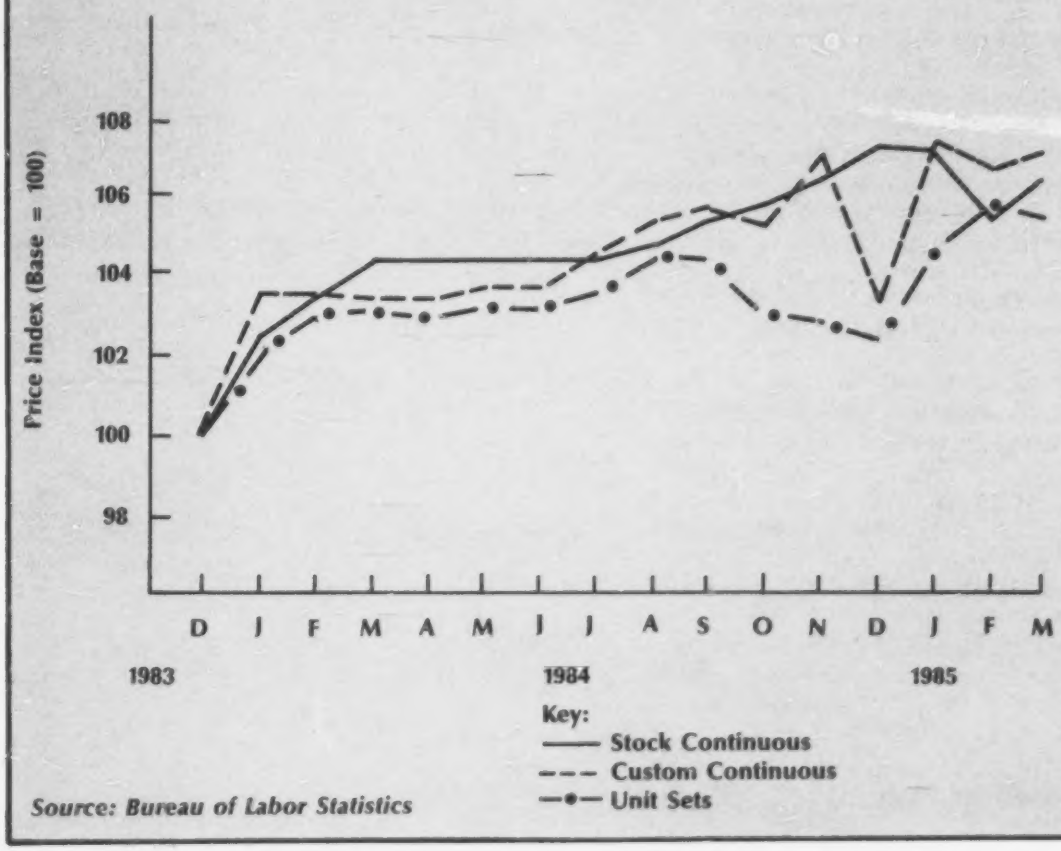
Wholesale Prices Increased About 4% Last Year, According to BLS. Figure 3 shows how the index fluctuated for the three main product lines of the forms industry. Overall, these product lines recorded the following overall increases in wholesale prices in 1984, according to BLS figures:

Overall	3.9%
Custom Continuous	4.4%
Stock Continuous	4.6%
Unit Sets	3.2%
Salesbooks, Pegboard Systems	0.7%

The dominant factor in forms industry pricing in 1984 and into this year has been the downward pressure on forms prices caused by lower paper prices. The lower paper prices, of course, are the result of uncoated free sheet overcapacity among U.S. paper suppliers; also, imports of uncoated free sheet papers rose sharply last year, thanks to the strength of the U.S. dollar.

This year more of the forms manufacturer's lower paper costs are now being passed on to the customer; this development, which was inevitable, means that last year's gravy days of high gross margins are long gone for most manufacturers.

FIGURE 3.
FORMS INDUSTRY PRODUCER PRICE MOVEMENTS, BY MAIN PRODUCT LINES



Source: Bureau of Labor Statistics

AVERAGE ORDER SIZES

One of the most widely observed trends in the forms industry over the last few years has been the growing emergence of the short-run (and very-short-run) forms market. To date, this market has defied definition, since a run of 3,000 impressions may be a short run for one manufacturer, while another manufacturer considers a short run to be anything under 500 impressions.

Early in 1985, IBFI conducted a survey of its forms manufacturing members that, among other things, asked what their average order size is. To enhance comparability of the results, the survey asked for the average order size in dollar value only. The sample for this survey was 124 manufacturers in the U.S. and Canada. This represented a 53% response rate for the survey.

Forms Manufacturers With Sales in the $15 to $40 Million Range Have the Largest Average Order Size. Figure 4 shows that the average order size increases (as expected) as the size of the company increases, although there is a slight drop-off once you get past the $40 million sales level; this may be due to the large investment that many of the major forms companies have made to attract business from the low end of the forms market, through telemarketing, direct mail and retail outlets.

TABLE 4.
RANGE OF AVERAGE ORDER SIZE BY SALES VOLUME

Sales Volume	Average Order Size (Low–High)
Under $3 Million	$140–$1,200
$3–8 Million	$300–$3,620
$8–15 Million	$210–$4,200
$15–40 Million	$133–$5,000
Over $40 Million	$300–$4,000

Source: IBFI

In examining statistics, it is important to know not just the mean but also the range. Table 4 shows the sales volume breakdowns. The range sizes clearly illustrate the fact that there is no such thing as a typical forms manufacturer.

In the U.S., Average Order Size is Smallest in the Southwest and Greatest in the Northeast. Figure 5 provides a regional breakdown of mean average order size among the survey respondents. It shows that Canada's average order size exceeds that of all U.S. regions. This reflects the greater concentration of the forms industry in Canada than in the United States. Ranges in average order size by region are provided in Table 5. (The precise configuration of each region may be determined by consulting the map included in Appendix A.)

Average Order Size is Greatest for Firms that Sell Direct. Among the 124 survey respondents, 45% were primarily direct sellers of business forms. Among these firms, the mean average order size is $1,238—with the range being $140 to $5,000. For the forms manufacturers who sell primarily through distributors (48% of our sample), the mean average order size is $729, with the range being $210 to $2,878.

TABLE 5.
RANGE OF AVERAGE ORDER SIZE BY REGION

Region	Average Order Size (Low-High)
Northeast	$300–$3,000
Southeast	$210–$5,000
Midwest	$140–$3,620
Southwest	$133–$700
Mountain	*
West Coast	$150–$1,760
Canada	$750–$4,200

** Insufficient Data*

Source: IBFI

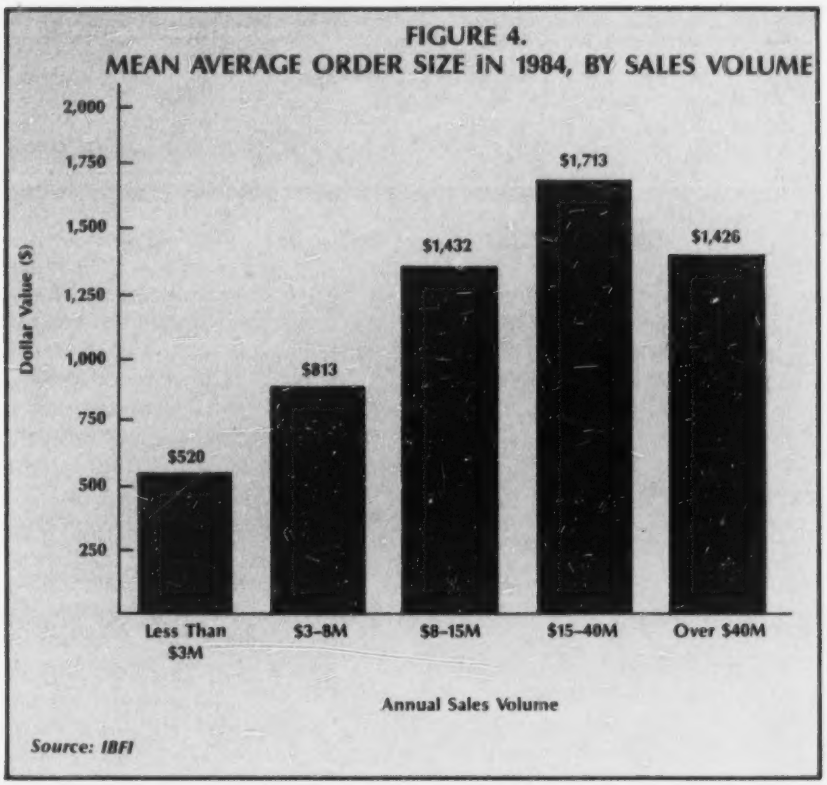


FIGURE 4.
MEAN AVERAGE ORDER SIZE IN 1984, BY SALES VOLUME
Dollar Value ($)
2,000
1,750
1,500
1,250
1,000
750
500
250
$520
$813
$1,432
$1,713
$1,426
Less Than $3M
$3–8M
$8–15M
$15–40M
Over $40M
Annual Sales Volume
Source: IBFI

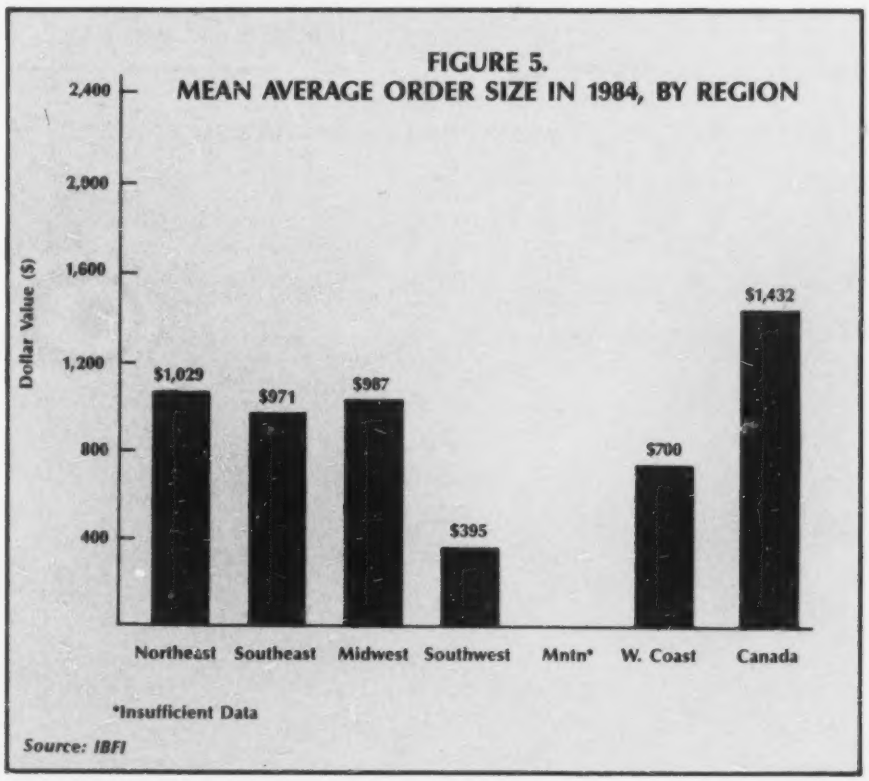


FIGURE 5.
MEAN AVERAGE ORDER SIZE IN 1984, BY REGION
Dollar Value ($)
2,400
2,000
1,600
1,200
800
400
$1,029
$971
$987
$395
$700
$1,432
Northeast
Southeast
Midwest
Southwest
Mntn*
W. Coast
Canada
*Insufficient Data
Source: IBFI

SINGLE-PART VS. MULTI-PART FORMS

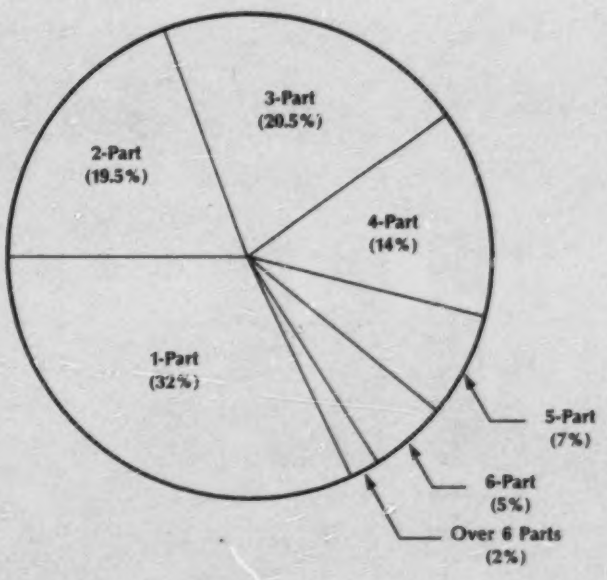
One of the most obvious trends affecting the forms industry in recent years has been the shift toward single-part forms. This shift has, of course, been prompted by the increased usage in the office place of computers and non-impact printers.

Sixty Percent of Stock Continuous Shipments Are One-Part Forms. According to the Census Bureau, in 1982, 30% of custom continuous and 40% of stock continuous forms were in the one-part category. It's certain that these percentages have increased since then: a survey IBFI conducted in 1984 of a select group of stock tab producers showed that 68% of their output was one-part forms. Given this result, IBFI estimates that, industry-wide, the one-part share of stock continuous forms totals about 60% of production; in the future, this share can only increase.

IBFI Research Shows that 32% of Custom Continuous Shipments Are One-Part Forms. As for single- and multi-part breakdowns of unit sets and custom continuous production, the results of an IBFI survey (conducted in early 1985) provide the most recent hard data on this matter. Figures 6 and 7 present results from this survey, based on 87 usable responses out of 124 survey respondents.

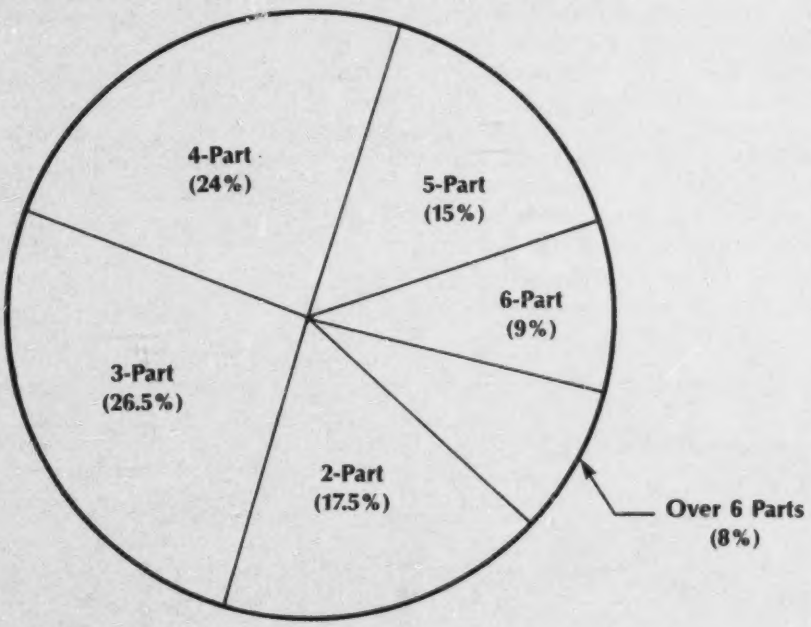
The survey did not specifically address the question of what percentage of multi-part forms produced are carbonless forms. However, based on previous IBFI research, Census data, and other sources, it is estimated that carbonless accounts for about 40% of all multi-part forms; its share should reach 50% by 1987 or 1988.

FIGURE 6.
BREAKDOWN OF CUSTOM CONTINUOUS SHIPMENTS, BY NUMBER OF PARTS



Source: IBFI

FIGURE 7.
BREAKDOWN OF UNIT SET SHIPMENTS, BY NUMBER OF PARTS



Source: IBFI

THE WAR FOR THE DESKTOP: IMPACT ON THE FORMS INDUSTRY

The Convergence of Office Place Technologies Will Profoundly Impact the Development of the Forms Industry Over the Next 5-10 Years. The evolution of data processing in the office environment has been accelerating in recent years. The breakthrough occurred when semiconductor technology enabled engineers to create a "computer on a chip"—thus paving the way for the much talked about microcomputer revolution.

This revolution—which is still underway—is evidenced by Table 6, which projects the size of the personal computer market through 1992. Office PCs probably account for 75% of all personal computers sold, and this share will rise slightly over the next few years as the home computer market continues to soften.

There Were 2.7 Million Office Personal Computers Sold in 1984. This estimate is provided by Future Computing, Inc., which estimates that 70% of these units were shipped for use in offices, with the balance being used in government facilities, educational institutions, and the home. It is also estimated that 4.8 million home personal computers were shipped in 1984, which was apparently the peak year for the inexpensive home computer market. (In early 1985, the bottom fell out of this market, as indicated by IBM's startling decision to withdraw its IBM PCjr from production.)

TABLE 6.
INSTALLED BASE OF OFFICE PERSONAL COMPUTERS

Year	Installed Base (Units)	Units Bought By First-Time Buyers
1983	4,000,000	600,000
1986	14,000,000	3,500,000
1989	29,000,000	5,000,000
1992	37,000,000	4,000,000

Source: Future Computing, Inc.

As for the installed base of office personal computers, the IBM PC accounts for the largest share: Future Computing estimates that, by the end of 1984, about 1.7 million IBM PCs were in use in offices in the U.S., compared to an installed base of approximately 700,000 IBM PCs at the end of 1983.

When you combine the IBM PC base with the installed base of 650,000 IBM-compatible personal computers, it is easy to understand why many observers expect the IBM PC operating environment to become the *de facto* standard for office place desktop computer systems in the future. In fact, even IBM's chief rival in the office automation sweepstakes, Apple Computer, has come to recognize this fact: in early 1985, Apple announced that its local area network (AppleTalk) would enable users to link up Apple products with IBM computers—including the IBM PC.

Printers in the Office of the Future. For the forms industry, of course, the key question with regard to the growth of computers in the office place is what type of electronic printers will be hooked up to these computers? What percent will be impact and what percent non-impact? Of the non-impact variety, what percent will be laser printers?

The most important question is, how many forms are consumed per printer? Due to the distribution of printing, an increase in the number of printers installed in an organization will usually produce a decrease in the number of pages consumed per printer.

Most personal computers that are sold will be shipped with a printer. (In fact, IBM estimates this percentage tops 80%.) Of these PC printers, over 90% will be impact printers, according to International Data Corporation (IDC), a printer/computer industry market research firm. IDC's estimate of the $2.8 billion PC printer market in 1984 is as follows:

Impact Matrix Printers	66.8%
Impact Character Printers	24.9%
Non-Impact Printers	8.3%
	100.0%

For the individual forms manufacturer, this projection presents both threats and opportunities: for instance, will this onslaught of personal computers further reduce the demand for high value-added continuous forms in favor of low value-added continuous forms and/or cut sheet forms? Table 7 attempts to answer this question.

The Journey from Data Processing to Image Processing. Before the advent of the personal computer in the late 1970s, computing was a task reserved for data processing departments and secretaries using word processors. To fulfill their respective functions, the secretary needed a low-speed letter quality printer so that he or she could produce correspondence and camera-ready reports; the data processing staff needed a high speed line printer to accommodate their huge output requirements.

When the personal computer began to catch on in the office place, suddenly there was a new individual to be considered: the professional, who used the personal computer for a multitude of tasks far beyond the rigid requirements of the secretary or the data processing department.

Coincidental with this development was the advent of laser printing technologies which combine great variety in images printed with tremendous flexibility. Within the last year, this technology has developed to the point where sheet-fed non-impact page printers (such as the Apple LaserWriter) are now available for less than $5,000.

TABLE 7.
CONTINUOUS FORM REVENUE RESULTING FROM PERSONAL COMPUTERS LINKED TO IMPACT CHARACTER AND IMPACT DOT MATRIX PRINTERS

	CONTINUOUS FORM REVENUE ($M)		
Impact Printer Segment	**1985**	**1987**	**1989**
Serial Character (0–61+ cps)	$ 50.2	$ 46.3	$41.8
Serial Dot Matrix (0–120 cps)	82.7	92.5	116.0
Line Dot Matrix (0–200 lpm)	24.8	53.9	84.4
Total	$ 157.7	$ 192.7	$242.2

Source: Dataquest

The fall-off in revenues from the serial character printer sector reflects the expected displacement of the letter quality impact printer by the laser printer, due to advances in the quality of laser imaging.

The Sheet-Fed Non-Impact Page Printer Is Clearly a Long-Term Threat to Continuous Forms Demand. Unlike the high speed page printers such as the IBM 3800 (continuous) and Xerox 9700 (sheet-fed), these inexpensive laser printers can be useful in virtually any type of office environment; the user does not have to produce a huge volume of printed output to justify owning such a printer. Also, these laser printers can be easily integrated into an office's computer system through a local area network. Assuming color capacity is eventually added, then the potential market for these low speed, non-impact printers is huge—but will probably not seriously impact the forms industry until the 1990s.

Table 8 presents an estimate of the current and future installed base of various types of electronic printers.

The Proliferation of Microcomputers Has Lead to Significant Changes in Business Forms Distribution Channels. In 1984, Moore Business Forms acquired a chain of 40 computer retail stores. With its chain of Moore Business Centers, Moore has positioned itself to compete head-on with other computer retail chains (Entre, BusinessLand, etc.) for the office PC customer. Of course, the Moore stores will sell forms, too—thus providing Moore with another wedge into the market for forms in small order sizes. Moore is already firmly positioned to go after these smaller orders as a result of its heavy investment in telemarketing.

The changes that are occurring in the industry's distribution channels are a function of increased competition and smaller order sizes; as a result, many forms manufacturers have realized that telemarketing is itself an alternative distribution channel. In fact a survey by IBFI of its members in 1984 showed that—in terms of dollars spent—telemarketing and direct mail are the fastest growing marketing practices in the forms industry. Appendix A presents a summary of the results of this Marketing Practices Survey.

TABLE 8(a).
INSTALLED BASE AND PAPER CONSUMPTION FOR ALL ELECTRONIC PRINTERS IN U.S. AND CANADA, 1985–1989

	1985	1987	1989
Average Installed Base (000)	17,070	30,427	47,681
Paper Consumption:			
% Continuous	71	63	56
% Stock	48	52	56
% Custom	52	48	44
% Cut Sheet	29	37	44

Source: Dataquest

TABLE 8(b).
INSTALLED BASE AND PAPER CONSUMPTION FOR ALL IMPACT PRINTERS IN U.S. AND CANADA, 1985–1989

	1985	1987	1989
Average Installed Base (000)	15,424	24,442	33,259
Paper Consumption:			
% Continuous	73	67	63
% Stock	73	82	86
% Custom	27	18	14
% Cut Sheet	27	33	37

Source: Dataquest

TABLE 8(c).
INSTALLED BASE AND PAPER CONSUMPTION FOR ALL NON-IMPACT PRINTERS IN U.S. AND CANADA, 1985–1989

	1985	1987	1989
Average Installed Base (000)	1,646	5,985	14,422
Paper Consumption:			
% Continuous	45	42	36
% Stock	86	91	95
% Custom	14	9	5
% Cut Sheet	55	58	64

Source: Dataquest

MILL CAPACITY AND TONNAGE CONVERTED

As shown in Table 9, the uncoated free sheet capacity of U.S. paper suppliers will increase at least 20% by 1987. This year, imports of uncoated free sheet—currently accounting for about 5% of the market—have slacked off somewhat from 1984's record levels; the level of imports could rise again if the dollar strengthens in the rest of the year. (Though April 1985, the dollar's value in relation to other currencies was about equal to its value at the beginning of the year.)

Through the first four months of 1985, the U.S. paper industry's overcapacity problem in the uncoated free sheet segment has improved slightly over 1984. Fortunately for these suppliers, imports of uncoated free sheet papers have declined somewhat from 1984 levels. This may explain why the major paper suppliers made plans to raise uncoated free sheet prices as of May 1st; whether this increase will stick is unknown.

TABLE 9.
EFFECTIVE ANNUAL CAPACITY OF U.S. PAPER SUPPLIERS
(Thousands of Short Tons)

	UNCOATED FREE SHEET	UNCOATED GOUNDWOOD	THIN PAPERS
1983	9,354	1,710	347
1984	10,083	1,693	338
1985	10,559	1,710	338
1986	10,915	1,712	338
1987	11,266	1,713	338
% Change, 83-87	20.4%	0.2%	(2.7%)

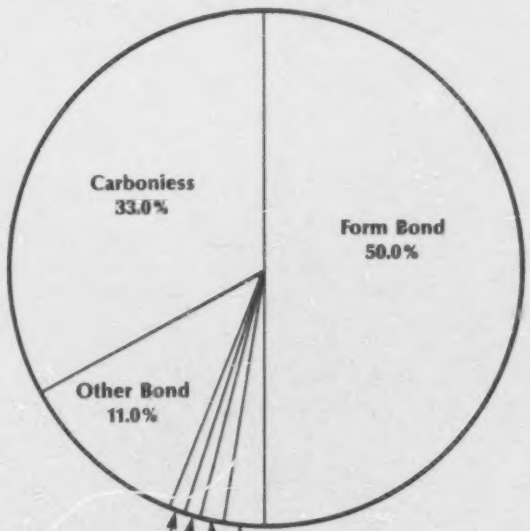
Source: API

The flat projection for capacity increase in uncoated groundwood papers is misleading; in fact, the increased substitution of groundwood content forms is inevitable due to the growth of the stock continuous segment and the competitive pressures of the forms industry. Although groundwood shipments by U.S. suppliers to forms converters slipped somewhat in 1984, this was due to (a) lower prices in the uncoated free sheet segment, which made the cheaper groundwood paper less attractive; and (b) a huge amount of groundwood paper imports.

Figure 8 provides a breakdown of the raw material inputs for a sample of forms manufacturers. The data was taken from an IBFI survey conducted in early 1985, with 124 companies participating.

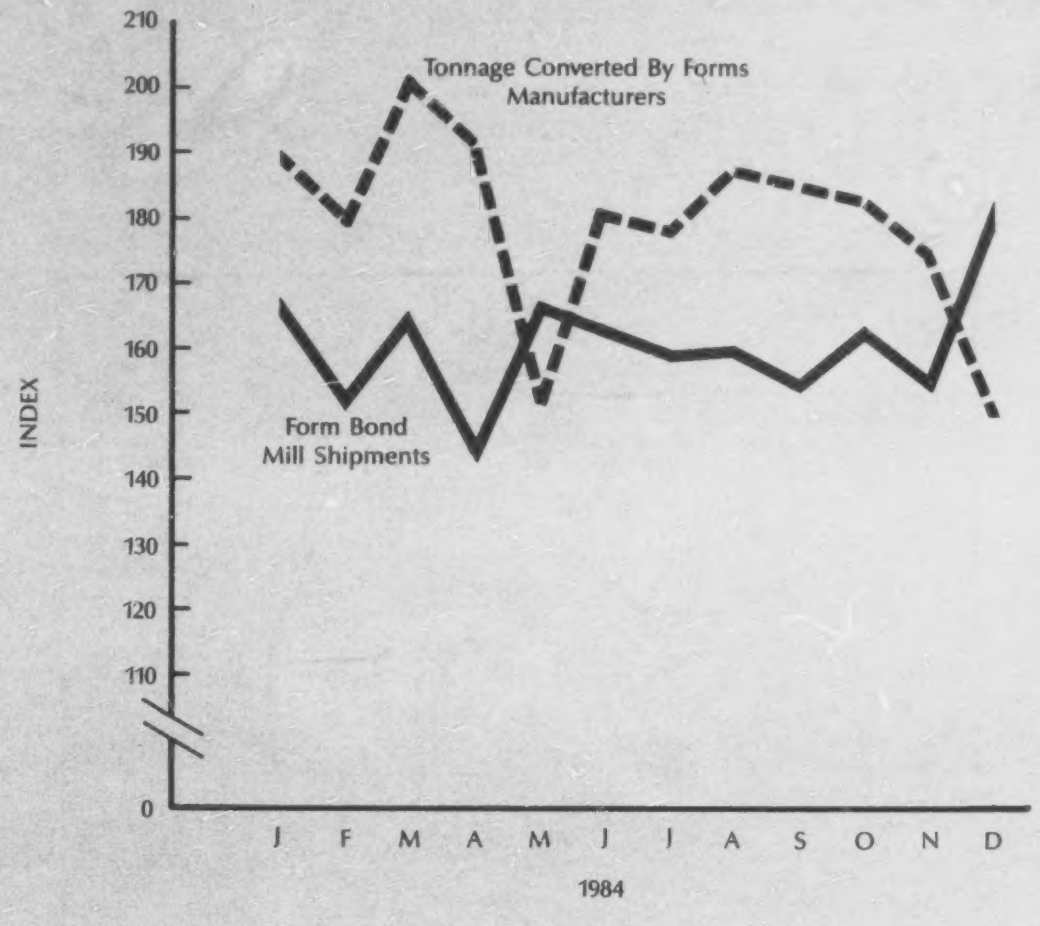
Figure 9 tracks mill shipments of forms bond vs. tonnage converted by forms manufacturers in 1984. In the first quarter of 1985, forms bond shipments have fallen slightly below 1984 levels; this is probably due to lower inventory demand by forms manufacturers.

FIGURE 8.
BREAKDOWN OF RAW MATERIAL INPUTS



Source: IBFI

FIGURE 9.
MILL SHIPMENTS VS. TONNAGE CONVERTED



Source: IBFI and API

U.S. ECONOMIC FORECAST, 1985–89

The 1981–82 Recession Was a Crucial Turning Point for the U.S. Economy. Since the end of World War II, when the United States first emerged as a colossal economic power, the U.S. economy has been hit by eight recessions. (By definition, a recession occurs when the economy records zero or negative growth of real GNP for two or more consecutive quarters.)

The most recent recession began in July of 1981 and lasted until November of 1982. By all accounts, it was the severest recession of the post-World War II era: unemployment increased from 7.5% to almost 11%, interest rates were stuck in the 15–18% range, and hundreds of thousands of jobs disappeared for good from auto, steel and other manufacturing industries.

Because of its severity and its length (16 months, compared to an average duration of 11 months for the other post-World War II recessions), this recession squeezed a lot of inefficiencies out of our economic system; for example, it put a screeching halt to the *wage-push* inflationary cycle that plagued us in the 1970s.

Many Firms Profited from the Lessons They Learned During the 1981–82 Recession. Even in the worst of recessions, many companies will prosper. During the last recession, these companies were few and far between: most were hard-pressed to remain profitable—and many marginal and inefficient producers were pushed over the brink and out of business.

Those firms that survived discovered just how flexible, resourceful and *lean* they could operate if they had to. For instance, they learned how to survive when real interest rates (i.e., the difference between the nominal interest rate and the inflation rate) hit unprecedented highs—zooming from 2% or less to the current level of about 6%. To cope, these firms recapitalized and became shrewder asset managers. For these companies, such valuable lessons will pay dividends for years to come.

Among the other valuable lessons learned were the following:

Better Control of Inventories. Due to the run-up in interest rates, managers became more attuned to the carrying costs associated with holding an inventory; by doing a better job of managing inventories, they are less likely to be caught with a bloated inventory that must be quickly liquidated when the economy softens. As a result, the economy is not receiving as many false signals as it did when inventory swings were more common—and the risk of a sharp, sudden economic contraction is reduced.

Increased Productivity by Workers. This has come about due to four principal causes. First, capital investment by businesses in new plants and equipment rebounded sharply after the 1981 Reagan tax bill made such investments more profitable (by allowing very accelerated depreciation on qualified property and equipment).

Second, the benefits of semi-conductor high technology are being used, to an increasing extent, to enable the individual worker to work smarter; a good example is the use of computers to design and test new products (such as automobile and aircraft components), resulting in a dramatic shortening of the time it can take to bring in a new product to market.

Third, many businesses emerged from the 1981-82 recession with the knowledge that they could survive and even prosper with a smaller, more efficient staff than the one they had before; as a result, those managers and employees who kept their jobs value them more dearly and therefore work harder.

Fourth, Congress has shown greater realism regarding the costs associated with implementation by U.S. industry of federal rules and regulations, especially in the environmental area. This loosening of the government's regulatory grip on certain sectors of U.S. industry has enabled many companies to stay competitive that would otherwise have gone under.

Defusing of Inflationary Expectations. The strength of the U.S. dollar, which has led to huge inflows of foreign capital *and* foreign goods into this country, is one of two main reasons for the *dis*inflation in our economy since 1983; the availability of high-quality, affordable foreign goods has forced many U.S. producers out of business; but it has also made it extremely difficult for other U.S. producers to raise prices (even when such increases were justified by rising costs).

The second reason behind the disinflation has been the Federal Reserve's decision (first announced in late 1979) to focus its influence not on interest rates but on the supply of money in the economy. Prior to 1979, the Federal Reserve sought to hold interest rates down through various "fine tuning" actions. Its success in doing so was mixed, and the spreading of inflationary expectations proved to be one of the side effects of this policy. The Fed's commitment over the last few years to endure high interest rates and high unemployment levels in order to battle inflation is perhaps the most important decision by a government body since the closing of the gold window in 1971.

Over the Last 40 Years, the U.S. Economy Has Shown Itself to be a Marvel of Flexibility. In 1971, when President Richard Nixon took the U.S. (and the world) off the last remnants of the gold standard, the dollar began to float freely against other major currencies of the world. Before 1971, the dollar's value was fixed to a certain amount of gold and other world currencies were pegged to the dollar's value. Thus, the world's nations traded with each other on the basis of *fixed* exchange rates. After 1971, they began trading on the basis of floating exchange rates; this means, for example, that today one U.S. dollar might be worth 1.25 British pounds, but next week the same U.S. dollar might be worth 1.35 pounds. It is impossible to understand the events of the last 14 years unless you are aware of this switch from fixed to floating exchange rates.

Today, There is Far More Risk and Uncertainty in the World Economy Than Existed Fifteen Years Ago. The move away from fixed exchange rates has left the world economy in a state of relative uncertainty. To combat this uncertainty, the U.S. government has (over the last 14 years) tried such measures as:

- Instituting wage and price controls (1971). The result: pent-up consumer demand helped fuel the fires of inflation.
- Artifically holding down interest rates by rapidly increasing the nation's money supply. The result: double-digit inflation and a slump in the value of the dollar that lasted until 1980.
- Imposition of credit controls on the economy (1979–80). This was done by the Carter Administration in the attempt to stem inflation. The result: interest rates over 20% and a recession.
- Across-the-board tax cuts in 1982–83. The result: the U.S. economy was able to pull out of its steepest recession in post-War history; a significant side effect of this stimuli, however, has been the creation of ingrained federal deficits that, in nominal terms, are unprecedented in size, zooming from $45 billion in 1975 to $195 billion in 1983.

The Size of the Federal Deficit is Less Important Than Its Ratio to GNP. A lot of ink has been spilled over the last two years by editorial writers wringing their hands over the size of the deficit. Few of them, however, seem to place the deficit in perspective. The best way to do so is to view it in relation to GNP.

In 1975, the ratio of the federal deficit to GNP was 2.9%, and by 1983 this ratio had soared to 5.9%. But in 1984, it fell back to 4.8%. As long as this ratio is declining, it means that the deficit problem is manageable and will not choke off the economy's chances for growth. (Japan's ratio of federal deficit to GNP has often been as high as 5–6%, yet their economy remains one of the world's most productive. This leads to the conclusion that many factors *other* than the size of the government's deficit are responsible for a country's economic joys or sorrows.)

The IBFI Economic Forecast Assumes the U.S. Economy Will Avoid a Recession at Least Until 1987. Table 10 presents IBFI's forecast for real GNP growth for the years 1985–89. In reviewing these and other forecasts, keep in mind that the GNP figures which the government compiles are nothing but statistical constructs whose purpose is to enable us to approximate the *actual* economy. Since the actual economy cannot be measured, economists have devised models that they believe approximate the movements of the actual economy; the GNP is such a model.

Three assumptions lay behind the following GNP forecast.

1. The prime interest rate will swing between 9% and 13% over the next five years.

2. The U.S. trade imbalance will improve as the rest of the world's economies catch up to the pace of the U.S.

3. The economy will experience a recession in 1987, but will recover in 1988.

Regarding assumption number three, some may question the likelihood of the U.S. economic recovery lasting through 1986. Actually, the average length of a post-World War II recovery has been 45 months; thus, even if the current recovery lasts just this long, it will not expire until August 1986.

Also, the amount of pent-up demand in the economy from the last recession was enormous. This demand is what has fueled the recovery so far, and there is no such thing as a limit to consumer demand. The only limits are in the constaints of the economic system—money supply, credit availability, production capacity, etc. But the business cycle is an irreplaceable feature of a market economy; as discussed above, when the cycle enters a period of contraction (i.e., a recession), numerous market distortions and inefficiencies can be eliminated—thus paving the way for the future long-term growth of the economy. Look for the next contraction to occur in early 1987.

TABLE 10.
PROJECTED ECONOMIC GROWTH, 1985–89

	% CHANGE IN REAL GNP
1985	3.8
1986	2.5
1987	0.8
1988	2.5
1989	4.5

BUSINESS FORMS FORECAST, 1985–89

The IBFI forecast is provided in Tables 11 and 12. It is presented in constant January 1, 1985 shipment dollars. (Shipment value equals the net sales price of a product, net of discounts, allowances, freight charges, and returns; the resale of finished goods is excluded from shipment value figures.) All numbers and projections are based on IBFI's own research.

The IBFI forecast is primarily based on the following assumptions:

1. The current economic expansion will not lose its steam until 1987.
2. The erosion of the higher value-added segments by the stock continuous segment will continue.
3. The impact of cut-sheet forms on the demand for continuous forms remains a serious long-term threat, but will not have its major impact until the 1990s.
4. The industry's dominant trend—a drop in the number of parts-per-form—will intensify as non-impact and laser printing technologies become more widely applied. As a result, the stock continuous segment will show the greatest unit growth over the next five years.

Historically, the forms industry has outperformed the overall economy by a ratio of just under 2:1. This trend should continue through the balance of the decade, as the forms industry evolves to meet changing demand with new applications; many of these new applications (such as labels and direct mail) will require forms manufacturers to branch out beyond their traditional markets. Therefore, flexibility and niche-seeking will be the keys to success for the rest of this decade.

TABLE 11.
U.S. BUSINESS FORMS SALES, 1984–89
(Millions of Jan 1, 1985 Shipment Dollars)

	1984	1985	1986	1987	1988	1989
Custom Continuous	2,476	2,599	2,703	2,771	2,890	3,037
Stock Continuous	1,280	1,423	1,558	1,637	1,743	1,898
Unit Sets	1,595	1,643	1,668	1,672	1,707	1,750
Salesbooks, Pegboard	220	250	278	302	328	359
TOTAL	5,571	5,915	6,207	6,382	6,668	7,044

Source: IBFI

TABLE 12.
U.S. BUSINESS FORMS SALES
Year-to-Year Change 1985–1989

Product	1984–85	1985–86	1986–87	1987–88	1988–89
Custom Continuous	5.0%	4.0%	2.5%	4.3%	5.1%
Stock Continuous	11.2%	9.5%	5.1%	6.5%	8.9%
Unit Sets	3.0%	1.5%	0.2%	2.1%	2.5%
Salesbooks, Pegboard	13.6%	11.2%	8.6%	8.6%	9.5%
TOTAL	6.2%	4.9%	2.8%	4.6%	5.5%

APPENDICES

APPENDIX A
SUMMARY OF RESULTS OF IBFI MARKETING PRACTICES SURVEY (Conducted Sep.-Oct., 1984)

The Marketing Practices Survey was conducted by IBFI as a means of assessing the changing environment in which business forms are being marketed. Confidential questionnaires were mailed to all active IBFI forms manufacturing members in the U.S. and Canada in September 1984. In all, questionnaires were sent to 226 companies; responses were received from 146 firms, for a response rate of 65%.

Ten marketing methods (or practices) were targeted by the survey. Respondents were asked to identify those methods that they currently use, and to identify whether they increased or decreased expenditures for these methods over the past year; they were also asked to pinpoint which methods have been added or discontinued. The list below shows what percent of the respondents currently use each method, in order of popularity.

Method	% of Respondents Using
Conference/Meeting Exhibits	61.0%
Telemarketing/Inbound 800-Number	54.8%
Direct Mail	50.7%
Yellow Pages Ads	50.7%
Telemarketing/Outbound Sales Calls	43.2%
Trade Publication Advertising	41.1%
Business Directory Advertising	29.5%
Mail Order Catalog Advertising	18.5%
Retail Store Displays	8.9%
Own Retail Store	4.1%

Some of the survey results varied by sales volume, distribution channel, and geographic region. Tables A1 and A2 and Figure A1 provide a breakdown of the results of the Marketing Practices Survey by sales volume, distribution channel, and geography.

Telemarketing and Direct Mail Are the Fastest Growing Marketing Practices. Of all the marketing practices surveyed, telemarketing and direct mail showed the largest increases overall. For example, 63 firms (of 146 in our total sample) engage in outbound telemarketing and 21% of these firms report they have *added* this service in the past year. If this trend were to continue for the next two years, the number of firms in our sample using outbound telemarketing would jump from 63 to 100 firms—nearly a 60% increase! Also striking is the increase use of direct mail by firms that sell direct to the end user: almost 70% of such firms that use direct mail have either increased their expenditures in this area or have added this service in the past year.

In summary, the results of the survey demonstrate (a) that more *new* money is being spent on telemarketing and direct mail than on the other marketing practices; and (b) that traditional marketing practices (such as exhibits, trade publications, yellow pages) are not being replaced by the newer marketing methods. Instead, these newer methods are being used to *complement* existing traditional marketing methods.

TABLE A1 - PERCENT OF FIRMS WITHIN EACH SALES VOLUME USING MARKETING PRACTICES

	Less Than $3 M	$3-8 M	$8-15 M	$15-40 M	Over $40 M	All Firms
Number of Respondents	48	51	23	15	9	146
Telemarketing/Outbound Calls	31%	41%	57%	53%	68%	43.2%
Inbound 800-Number	44%	57%	65%	53%	78%	54.8%
Mail Order Catalog Advertising	6%	20%	22%	33%	44%	18.5%
Direct Mail/Individual Product Promotion	38%	47%	61%	73%	78%	50.7%
Business Directory Advertising	19%	24%	52%	40%	44%	29.5%
Yellow Pages Ads	52%	39%	52%	67%	78%	50.7%
Conference/Meeting Exhibits	42%	63%	52%	73%	89%	61.0%
Retail Store Displays	4%	4%	9%	20%	44%	8.9%
Own Retail Store	8%	0%	0%	7%	11%	4.1%
Trade Publication Advertising	35%	51%	43%	60%	56%	41.1%

Note: read table as follows: 31% of firms with annual sales of less than $3 million use outbound telemarketing.

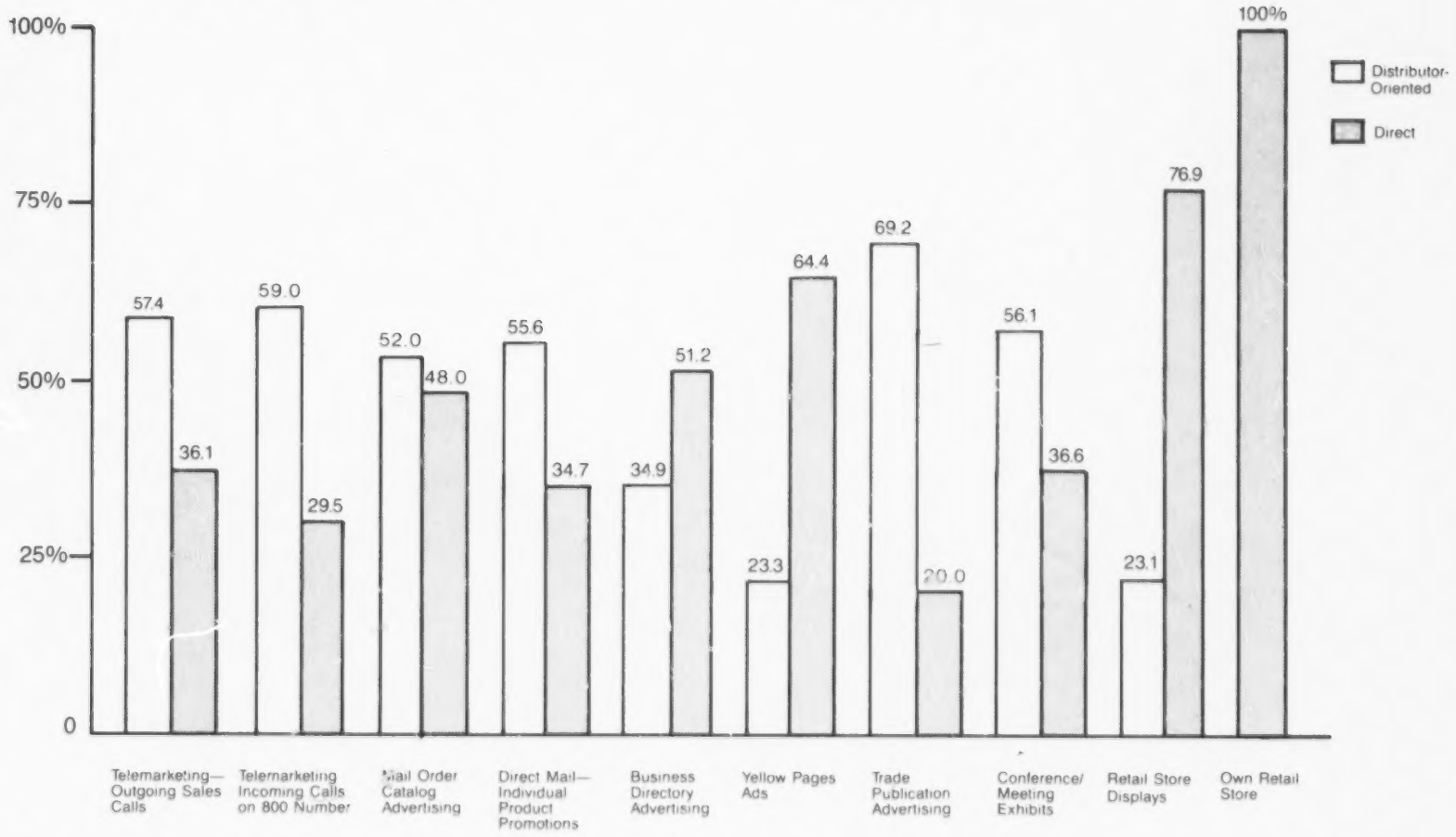
TABLE A2 - PERCENT OF FIRMS WITHIN EACH REGION USING EACH MARKETING PRACTICE

METHOD	SOUTHEAST	NORTHEAST	MIDWEST	SOUTHWEST	MOUNTAIN	WEST COAST	CANADA
Telemarketing-Outbound Calls	68%	35%	42%	36%	*	29%	67%
Inbound 800-Number	76%	39%	58%	82%	*	38%	33%
Mail Order	32%	13%	8%	45%	*	24%	16%
Direct Mail/Individual Product Promotion	64%	45%	52%	55%	*	33%	67%
Business Directory Advertising	32%	23%	20%	45%	*	38%	83%
Yellow Pages Ads	52%	29%	56%	36%	*	62%	100%
Conference/Meeting Exhibits	80%	48%	50%	45%	*	57%	67%
Retail Store Displays	12%	3%	12%	0%	*	5%	33%
Own Retail Store	8%	3%	4%	0%	*	5%	0%
Trade Publication Advertising	76%	45%	40%	36%	*	38%	33%

*Insufficient data.

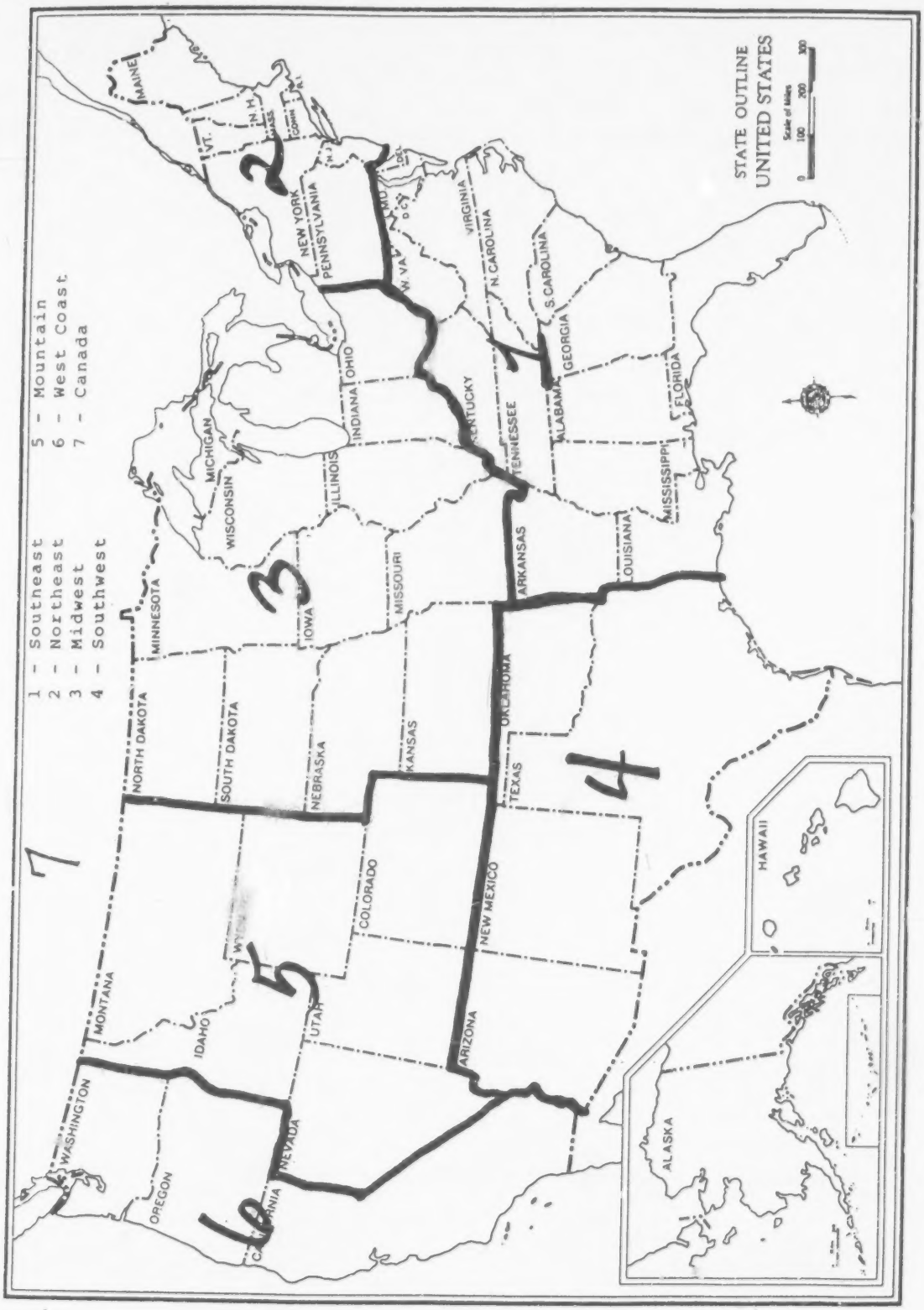
Note: read table as follows: 68% of firms in Southeast use outbound telemarketing.

FIGURE A1.
DISTRIBUTION-BASED vs. DIRECT SELLERS AS % OF TOTAL USERS



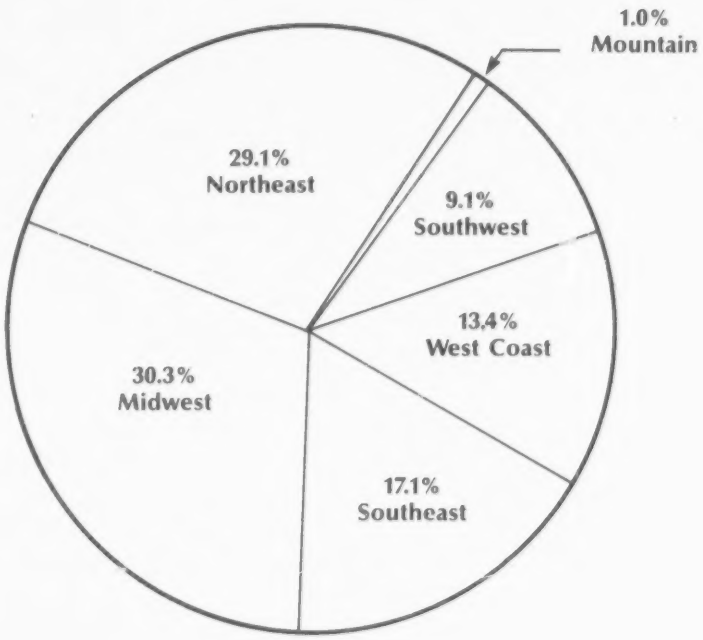
Note: 10% of the Responding Firms are Neither Primarily Distributor-Based nor Direct Sellers; They are 50%/50%.

FIGURE A2. REGIONAL BREAKDOWNS



APPENDIX B
FORMS MANUFACTURING BY REGION

FIGURE B1.
REGIONAL MANUFACTURE OF FORMS, BY SHIPMENT VALUE



Source: 1982 Census of Manufactures

TABLE B1.
GEOGRAPHIC BREAKDOWN OF FORMS MANUFACTURING

	TOTAL PLANTS	PLANTS WITH 20+ EMPLOYEES	SHIPMENT VALUE ($ MILLIONS)
Northeast	**184**	**118**	**1,463.8**
Connecticut	17	15	149.6
Massachusetts	13	8	42.6
New Jersey	31	19	454.0
New Hampshire	4	3	55.3
New York	68	35	200.1
Pennsylvania	48	35	552.2
Vermont	3	3	10.0
Southeast	**152**	**99**	**863.5**
Alabama	8	5	90.4
Arkansas	5	4	15.0
Florida	25	14	81.7
Georgia	27	13	107.7
Kentucky	6	3	60.0
Louisiana	11	8	31.8
Maryland	12	11	143.0
North Carolina	21	14	84.0
South Carolina	6	5	36.4
Tennessee	16	10	66.3
Virginia	15	12	147.2
Midwest	**230**	**149**	**1,523.1**
Illinois	60	40	373.3
Indiana	18	11	149.6
Iowa	14	11	101.8
Kansas	14	11	91.1
Michigan	31	17	127.8
Minnesota	14	10	48.8
Missouri	21	12	114.7
Ohio	39	26	377.8
Wisconsin	19	11	138.2
Southwest	**67**	**47**	**457.1**
Oklahoma	9	5	75.3
Texas	58	42	381.8
Mountain	**6**	**6**	**51.7**
Utah	6	6	51.7
West Coast	**112**	**76**	**674.6**
California	97	65	583.2
Oregon	15	11	91.4

Source: U.S. Census Bureau, 1982 Census of Manufactures

APPENDIX C
HISTORICAL STATISTICS

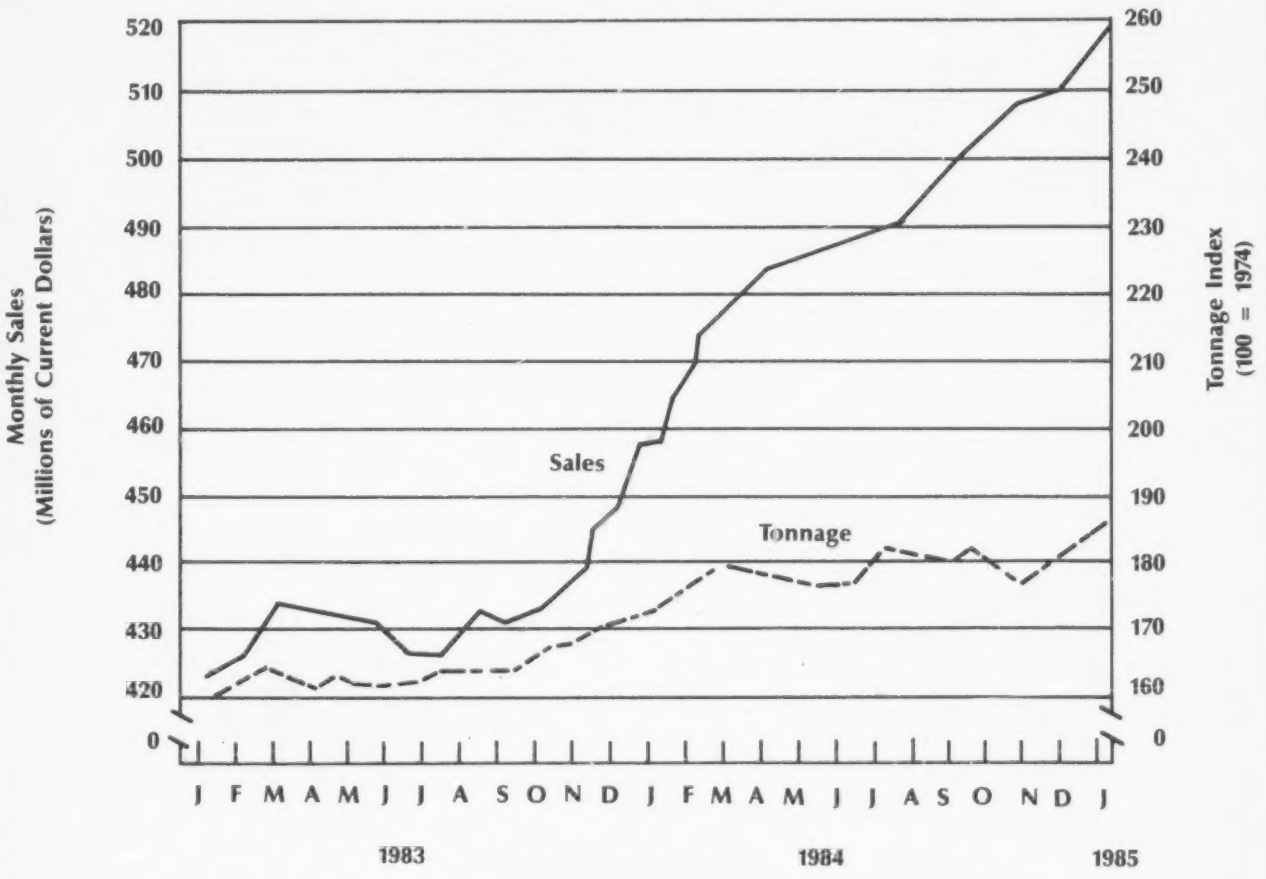
Table C1.
Sales Data, Manifold Business Forms
(Millions of Dollars at Shipment Values)

	Unit Sets	Custom Continuous	Stock Continuous	Sales And Other Books	TOTAL
1958	159.6	150.4	18.8	45.2	374.0
1963	265.5	239.4	53.9	39.6	598.4
1967	361.7	391.9	98.0	44.2	895.8
1970	468.4	493.4	185.0	52.3	1,199.1
1971	486.4	518.9	190.0	47.0	1,242.3
1972	547.3	578.2	204.9	51.5	1,381.9
1973	630.2	733.7	282.1	59.8	1,705.8
1974	776.2	966.1	432.2	78.8	2,253.3
1975	781.6	944.9	413.7	78.3	2,218.5
1976	849.1	970.3	521.1	84.8	2,425.3
1977	958.1	981.1	633.9	129.5	2,702.6
1978	1,065.1	1,194.8	680.3	137.9	3,078.1
1979	1,248.7	1,466.9	891.4	154.2	3,761.2
1980	1,323.1	1,657.9	1,031.7	174.1	4,186.8
1981	1,417.2	1,823.7	1,186.5	175.7	4,603.1
1982	1,390.3	1,886.0	1,229.3	184.0	4,689.6
1983	1,425.0	2,021.8	1,183.8	204.1	4,834.7
1984	1,595.0	2,476.0	1,280.0	220.0	5,571.0

TABLE C2.
Growth of Forms Industry Employment
Source: U.S. Census of Manufactures

	Total Number of Companies	Number of Plants	Plants With 20 or More Employees	Total Number of Employees
1958	*	*	168	23.5
1963	439	502	250	28.8
1967	454	542	295	34.6
1972	533	667	376	38.5
1977	604	795	477	45.3
1982	583	809	529	49.6

FIGURE C3.
MONTHLY SALES AND TONNAGE INDEX 12-MONTH WEIGHTED MOVING AVERAGE



Source: IBFI Confidential Sales Index

APPENDIX D

1982 Census of Manufactures

MC82-I-27B

INDUSTRY SERIES

Manifold Business Forms

2761 Manifold Business Forms

Issued March 1985

U.S. Department of Commerce
Malcolm Baldrige, Secretary
Clarence J. Brown, Deputy Secretary
Sidney Jones, Under Secretary for Economic Affairs

BUREAU OF THE CENSUS
John G. Keane, Director

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in this publication:

- Represents zero.
(D) Withheld to avoid disclosing data for individual companies; data are included in higher level totals.
(NA) Not available.
(NC) Not comparable.
(S) Withheld because estimate did not meet publication standards on the basis of either the response rate or a consistency review.
(X) Not applicable.
(Z) Less than half the unit shown.
n.e.c. Not elsewhere classified.
n.s.k. Not specified by kind.
pt. Part.
r Revised.
SIC Standard Industrial Classification.

Other abbreviations, such as lb, gal, yd, doz, bbl, and s tons, are used in the customary sense.

INDUSTRY 2761, MANIFOLD BUSINESS FORMS

This industry comprises establishments primarily engaged in the designing and printing, by any process, of special forms for use in the operation of a business, in single and multiple sets, including carbonized or interleaved with carbon or otherwise processed for multiple reproduction. Also included is the manufacture of manifold books, including pegboard accounting systems.

In the 1982 Census of Manufactures, Industry 2761, Manifold Business Forms, recorded employment of 49.5 thousand. The total value of shipments for establishments classified in this industry was $5.1 billion.

The value of shipments figure shown above is in current (1982) prices. All dollar figures included in this report are at prices current for the year specified and, therefore, unadjusted for changes in price levels. Consequently, when making comparisons to prior years, users should take into consideration the inflation that has occurred.

The employment figure shown above was 9 percent above the 45.3 thousand reported in 1977. The leading States in employment in 1982 were California, Ohio, Texas, and Pennsylvania, accounting for approximately 35 percent of the industry's 1982 employment. This represents a shift from 1977 when California, Texas, Ohio, and Illinois accounted for approximately 36 percent of the industry's employment.

Compared with 1981, employment increased 2 percent. The 1981 data are based on the Bureau's annual survey of manufactures (ASM), which is a sample survey conducted each year between censuses.

Establishments in virtually all industries ship secondary products as well as products primary to the industry to which they are classified and have some miscellaneous receipts, such as resales and contract receipts. In current prices, industry 2761 shipped $4.6 billion of products primary to the industry, $215 million of secondary products, and had $198 million of miscellaneous receipts. Thus, the ratio of primary products to the total of both secondary and primary products shipped by establishments in the industry was 96 percent (specialization ratio). In 1977, this specialization ratio was 93 percent.

Establishments in this industry also accounted for 97 percent of products considered primary to the industry no matter where they actually were produced (coverage ratio). In 1977, the coverage ratio was 95 percent. The products primary to industry 2761, no matter in what industry they were produced, appear in table 6a and aggregate to $4.8 billion in current prices.

The total cost of materials and services used by establishments classified in the manifold business forms industry amounted to $2.6 billion in current prices. Data on specific materials consumed appear in table 7.

Establishments of single-unit companies in this industry with up to 5 employees were excluded from the mail portion of the census. The data for these establishments (and a small number of larger establishments whose reports were not received at the time the data were tabulated) were obtained from administrative records of other agencies or developed from industry averages. These establishments accounted for 10 percent of total value of shipments.

Table 1a. Historical Statistics for the Industry: 1982 and Earlier Years

[Excludes data for auxiliaries. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Year[1]	Companies[2] (no.)	All establishments[3]		All employees		Production workers			Value added by manufacture[4] (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories[4] (million dollars)	Ratios	
		Total (no.)	With 20 employees or more (no.)	Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						Specialization (percent)	Coverage (percent)
	INDUSTRY 2761, MANIFOLD BUSINESS FORMS														
1982 Census	583	810	530	49.5	934.0	36.2	71.1	634.3	2 490.7	2 563.1	5 058.7	135.4	571.9	96	97
1981 ASM	(NA)	(NA)	(NA)	48.4	859.6	35.8	70.9	570.2	2 394.3	2 363.5	4 734.7	[7]139.6	518.8	(NA)	(NA)
1980 ASM	(NA)	(NA)	(NA)	49.2	784.5	36.9	72.7	525.5	2 183.7	2 100.7	4 279.0	[7]168.1	499.6	(NA)	(NA)
1979 ASM	(NA)	(NA)	(NA)	50.2	710.3	38.3	74.2	490.1	2 051.5	1 907.5	3 929.1	[7]119.4	477.8	(NA)	(NA)
1978 ASM	(NA)	(NA)	(NA)	46.7	634.5	34.8	68.7	433.1	1 692.2	1 616.4	3 298.5	122.8	386.7	(NA)	(NA)
1977 Census	604	795	477	45.3	575.0	33.3	67.3	390.9	1 491.6	1 418.0	2 893.8	82.1	336.7	93	95
1976 ASM	(NA)	(NA)	(NA)	38.8	468.0	29.2	58.4	317.1	1 201.7	1 132.9	2 327.9	58.6	289.6	(NA)	(NA)
1975 ASM	(NA)	(NA)	(NA)	40.2	440.1	29.8	58.4	292.0	1 155.5	1 024.7	2 184.9	74.6	283.2	(NA)	(NA)
1974 ASM	(NA)	(NA)	(NA)	44.5	445.8	33.8	67.9	309.4	1 325.1	1 013.8	2 304.6	67.4	348.9	(NA)	(NA)
1973 ASM	(NA)	(NA)	(NA)	40.9	385.6	30.6	62.5	264.8	978.6	739.9	1 708.4	52.2	196.6	(NA)	(NA)
1972 Census	533	667	376	38.6	343.6	28.8	58.6	235.2	823.6	612.3	1 429.7	45.8	143.8	93	92
1971 ASM	(NA)	(NA)	(NA)	37.4	320.6	27.6	58.2	215.6	727.7	550.3	1 277.7	50.6	133.3	(NA)	(NA)
1970 ASM	(NA)	(NA)	(NA)	39.7	317.1	29.7	60.7	215.4	721.9	543.3	1 264.8	54.7	131.0	(NA)	(NA)
1969 ASM	(NA)	(NA)	(NA)	37.1	287.7	28.1	57.7	190.5	667.1	487.9	1 152.2	48.6	120.7	(NA)	(NA)
1968 ASM	(NA)	(NA)	(NA)	35.4	263.2	26.1	54.6	173.1	607.6	431.2	1 031.4	45.2	112.1	(NA)	(NA)
1967 Census	454	542	295	34.4	240.2	25.3	51.4	158.9	550.5	384.6	932.3	39.8	98.4	91	90

[1]In annual survey of manufactures (ASM) years, data are estimates based on a representative sample of establishments canvassed annually and may differ from results of a complete canvass of all establishments. ASM publication shows percentage standard errors. Unless otherwise noted, for data prior to 1967, see 1967 Census of Manufactures, vol. II, table 1 of the Industry chapter.

[2]For the census, a company is defined as a business organization consisting of one establishment or more under common ownership or control.

[3]Includes establishments with payroll at any time during year.

[4]Effective with the 1982 Economic Censuses, uniform instructions for reporting inventories were introduced for all sector reports. Up to 1982, respondents were permitted to value inventories using any generally accepted accounting method (FIFO, LIFO, market, to name a few). In 1982, LIFO users were asked to first report inventory values prior to the LIFO adjustment and then to report the LIFO reserve and the LIFO value after adjustment for the reserve.

Because of this change in reporting instructions, the 1982 data for inventories and value added by manufacture included in the tables of this report are not comparable to the prior-year data shown above and in historical census of manufactures and annual survey of manufactures publications. Inventories and value added data estimated on a basis comparable to the historical data, using the reported information for 1982, are shown below:

Industries	End-of-1981 inventories (million dollars)	End-of-1982 inventories (million dollars)	1982 value added by manufacture (million dollars)
Industry 2751, Commercial printing, letterpress	562.2	558.5	3 157.4
Industry 2752, Commercial printing, lithographic (offset)	1 431.5	1 442.0	11 050.7
Industry 2753, Engraving and plate printing	49.4	53.0	436.5
Industry 2754, Commercial printing, gravure	174.2	166.4	1 095.4
Industry 2761, Manifold business forms	551.7	520.4	2 493.2

See Inventories in appendixes for explanation of the difference between end-of-1981 inventory figure shown in table and corresponding figure shown in footnote.

[5]Industry was defined or redefined for 1972 Census of Manufactures, so data are available only for years shown.

[6]Data either have associated standard errors exceeding 15 percent or are not consistent with other census series and related data; thus, these estimates may be of limited reliability.

[7]Estimate for new capital expenditures has associated standard error of 15 percent or more and may be of limited reliability. Estimates for other data items are of acceptable reliability.

Table 1b. Selected Operating Ratios for the Industry: 1982 and Earlier Years–

Year	Payroll per employee (dollars)	Production workers as percent of total employment (percent)	Annual hours of production workers (number)	Average hourly earnings of production workers (dollars)	Cost of materials as percent of value of shipments (percent)	Cost of materials and payroll as percent of value of shipments (percent)	Value added per employee (dollars)	Payroll as percent of value added (percent)	Value added per production worker hour (dollars)
	INDUSTRY 2761, MANIFOLD BUSINESS FORMS								
1982 Census	18 869	73	1 964	8.92	51	69	50 317	37	35.03
1981 ASM	17 760	74	1 960	8.04	50	68	49 469	36	33.77
1980 ASM	15 945	75	1 970	7.23	49	67	44 384	36	30.04
1979 ASM	14 149	76	1 937	6.61	49	67	40 867	35	27.65
1978 ASM	13 587	75	1 974	6.30	49	68	36 236	37	24.83
1977 Census	12 693	74	2 021	5.81	49	69	32 927	39	22.16
1976 ASM	12 062	75	2 000	5.43	49	69	30 972	39	20.58
1975 ASM	10 948	74	1 960	5.00	47	67	28 744	38	19.79
1974 ASM	10 018	76	2 009	4.56	44	63	29 778	34	19.52
1973 ASM	9 428	75	2 042	4.24	43	66	23 927	39	15.66
1972 Census	8 902	75	2 035	4.01	43	67	21 337	42	14.05
1971 ASM	8 572	74	2 109	3.70	43	68	19 457	44	12.50
1970 ASM	7 987	75	2 044	3.55	43	68	18 184	44	11.89
1969 ASM	7 755	76	2 053	3.30	42	67	17 981	43	11.56
1968 ASM	7 435	74	2 092	3.17	42	67	17 164	43	11.13
1967 Census	6 983	74	2 032	3.09	41	67	16 003	44	10.71

Note: For qualifications of data, see footnotes on table 1a.

Table 2. Industry Statistics for Selected States: 1982 and 1977—Con.

[Excludes data for auxiliaries. Includes data for States with 150 employees or more. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and geographic area	1982												1977	
		All establishments[2]		All employees		Production workers			Value added by manufacture[4] (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	All employees[3] (1,000)	Value added by manufacture (million dollars)
	E[1]	Total (no.)	With 20 employees or more (no.)	Number[3] (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)						
INDUSTRY 2761, MANIFOLD BUSINESS FORMS														
United States	**E1**	**810**	**530**	**49.5**	**934.0**	**36.2**	**71.1**	**634.3**	**2 490.7**	**2 563.1**	**5 058.7**	**135.4**	**45.3**	**1 491.6**
Alabama	-	8	5	.7	11.9	.5	.9	7.2	36.4	54.2	90.4	1.1	BB	(D)
Arizona	E1	11	7	.4	8.5	.3	.6	5.3	17.2	18.5	35.6	1.4	.3	8.3
Arkansas	-	5	4	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	CC	(D)
California	E1	97	65	5.2	104.9	3.7	7.3	70.2	282.7	301.1	583.2	12.1	4.9	191.5
Colorado	-	8	6	.4	8.1	.2	.5	4.6	16.3	19.4	35.7	1.2	AA	(D)
Connecticut	E3	17	15	1.5	26.9	1.1	2.2	18.3	77.9	70.6	149.6	3.1	.9	31.1
Florida	E3	25	14	1.0	17.6	.7	1.5	12.5	40.8	40.3	81.7	2.2	.7	18.3
Georgia	-	27	13	1.1	16.9	.8	1.6	11.9	58.0	48.8	107.7	3.0	1.1	35.8
Idaho	-	2	1	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	AA	(D)
Illinois	-	60	40	3.6	76.0	2.6	5.0	52.3	174.2	200.0	373.3	13.2	3.5	116.5
Indiana	-	18	11	1.7	33.5	1.0	2.1	20.1	76.4	71.8	149.6	3.2	.8	31.9
Iowa	E2	14	11	1.0	19.3	.8	1.4	12.6	51.5	50.1	101.8	2.0	.9	29.9
Kansas	E2	14	11	1.2	21.6	.9	1.9	14.5	44.3	46.3	91.1	1.8	1.2	26.4
Kentucky	-	6	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.6	18.7
Louisiana	E1	11	8	.5	8.6	.4	.7	5.6	17.1	14.7	31.8	.9	.5	12.5
Maryland	-	12	11	1.3	24.4	1.0	2.0	16.9	72.1	71.8	143.0	3.2	1.5	40.6
Massachusetts	E2	13	8	.5	10.7	.4	.7	6.4	21.5	20.7	42.6	1.9	.6	17.3
Michigan	-	31	17	1.4	30.9	.9	1.7	18.7	55.6	66.6	122.7	3.2	1.3	37.6
Minnesota	-	14	10	.6	11.6	.4	.8	6.7	20.8	28.0	48.8	1.2	.5	13.3
Missouri	-	21	12	1.0	17.0	.7	1.5	11.1	45.3	71.4	114.7	4.0	.9	18.9
Nebraska	-	5	3	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.3	4.8
New Hampshire	E3	4	3	.5	9.4	.4	.7	6.1	30.7	24.0	55.3	1.3	.6	19.1
New Jersey	E2	31	19	EE	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	1.0	27.0
New York	E1	69	36	2.8	51.7	2.0	3.8	35.4	117.1	87.9	204.8	(D)	2.7	86.3
North Carolina	E2	21	14	1.0	15.9	.8	1.6	12.0	38.2	45.8	84.0	3.6	.9	22.2
Ohio	-	39	26	4.5	80.1	3.4	6.5	57.2	199.9	181.3	377.8	6.2	3.6	125.4
Oklahoma	-	9	5	.8	14.2	.6	1.1	9.8	33.6	40.8	75.3	.9	.8	22.6
Oregon	-	15	11	.8	15.6	.6	1.1	10.6	46.8	43.0	91.4	1.8	.7	30.8
Pennsylvania	-	48	35	3.7	73.9	2.9	6.0	54.1	249.8	328.4	580.9	10.9	3.1	144.4
Rhode Island	E1	6	4	.2	3.5	.2	.3	2.4	6.8	5.0	11.9	.2	.2	4.5
South Carolina	-	6	5	.5	8.2	.4	.7	5.3	25.3	11.2	36.4	(D)	BB	(D)
Tennessee	E1	16	10	.7	11.3	.5	1.0	8.3	36.5	29.5	66.3	1.6	.3	6.9
Texas	-	58	42	3.9	71.1	2.9	5.7	47.9	199.2	183.9	381.8	24.3	4.3	115.0
Utah	-	6	6	.6	9.1	.4	.9	6.6	34.2	17.2	51.7	(D)	BB	(D)
Vermont	-	3	3	CC	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	.5	23.8
Virginia	-	15	12	1.2	17.6	.8	1.6	12.0	60.7	82.4	143.7	4.3	1.0	33.5
Washington	-	13	7	.4	8.9	.2	.4	4.7	15.6	12.1	27.8	(D)	.4	10.4
West Virginia	-	2	2	BB	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	BB	(D)
Wisconsin	-	19	11	1.0	19.7	.7	1.3	11.8	52.3	84.5	138.2	2.2	1.2	48.6

Note: For qualifications of data, see footnotes on table 1a.

[1]Payroll and sales data for some small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 percent or more.

[2]Includes establishments with payroll at any time during year.

[3]Statistics for some producing States have been withheld to avoid disclosing data for individual companies. However, for States with 150 employees or more, number of establishments is shown and employment size range is indicated by one of the following symbols: AA—150 to 249 employees; BB—250 to 499 employees; CC—500 to 999 employees; EE—1,000 to 2,499 employees; FF—2,500 employees or more.

[4]Beginning in 1982, all respondents were requested to report their inventories at cost or market prior to adjustment to LIFO cost. This is a change from prior years in which respondents were permitted to value their inventories using any generally accepted accounting method. Consequently, data for inventories and value added by manufacture are not comparable to prior-year data.

Table 4. Industry Statistics by Employment Size of Establishment: 1982—Con.

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Industry and employment size class	E[1]	All establishments (no.)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)	End-of-year inventories (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)					
INDUSTRY 2761, MANIFOLD BUSINESS FORMS												
Total	**E1**	**810**	**49.5**	**934.0**	**36.2**	**71.1**	**634.3**	**2 490.7**	**2 563.1**	**5 058.7**	**135.4**	**571.9**
Establishments with an average of—												
1 to 4 employees	E9	79	.2	2.6	.1	.2	2.0	7.1	7.3	14.5	.4	1.8
5 to 9 employees	E5	79	.6	8.8	.4	.8	6.4	22.8	23.8	46.5	1.0	5.3
10 to 19 employees	E5	122	1.7	26.4	1.3	2.5	18.6	60.8	69.2	130.3	8.0	13.9
20 to 49 employees	E2	235	7.6	139.2	5.5	10.7	89.3	300.0	328.9	630.7	32.6	62.1
50 to 99 employees	E1	147	10.4	191.1	7.7	15.0	128.8	474.3	499.5	976.5	27.0	107.1
100 to 249 employees	-	120	19.0	368.8	14.0	27.4	254.9	1 080.7	1 118.9	2 197.7	45.7	255.5
250 to 499 employees	-	22	6.7	134.0	4.9	10.0	93.8	400.8	415.2	820.7	14.2	98.2
500 to 999 employees	-	6	3.4	61.1	2.3	4.4	40.5	144.1	100.3	241.7	6.4	28.0
Covered by administrative records[2]	E9	171	1.4	19.4	1.0	2.0	13.3	46.5	46.9	93.5	2.5	10.2

Note: For qualifications of data, see footnotes on table 1a. Data shown as a (D) are included in underscored figures above.

[1]Payroll and sales data for some small single-unit companies with up to 20 employees (cutoff varied by industry) were obtained from administrative records of other government agencies rather than from census report forms. These data were then used in conjunction with industry averages to estimate the items shown for these small establishments. This technique was also used for a small number of other establishments whose reports were not received at time data were tabulated. The following symbols are shown for those States where estimated data based on administrative records data account for 10 percent or more of figures shown: E1—10 to 19 percent; E2—20 to 29 percent; E3—30 to 39 percent; E4—40 to 49 percent; E5—50 to 59 percent; E6—60 to 69 percent; E7—70 to 79 percent; E8—80 to 89 percent; E9—90 percent or more.

[2]Report forms were not mailed to small single-unit companies with up to 20 employees (cutoff varied by industry). Payroll and sales data for 1982 were obtained from administrative records supplied by other agencies of the Federal Government. Those data were then used in conjunction with industry averages to estimate the items shown. Data are also included in respective size classes shown.

Table 5a. Industry Statistics by Industry and Primary Product Class Specialization: 1982—Con.

[Table presents selected statistics for establishments according to their degree of specialization in products primary to their industry. Measures of plant specialization shown are (1) industry specialization: ratio of primary product shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment; and (2) product class specialization: ratio of largest primary product class shipments to total product shipments (primary plus secondary, excluding miscellaneous receipts) for the establishment. See appendix for method of computing ratios. Statistics for establishments with specialization ratios of less than 75 percent are included in total lines but are not shown as a separate class. In addition, data may not be shown for various reasons; e.g., to avoid disclosing data for individual companies. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes.]

industry or product class code	Industry or product class by percent of specialization	All establishments (number)	All employees		Production workers			Value added by manufacture (million dollars)	Cost of materials (million dollars)	Value of shipments (million dollars)	New capital expenditures (million dollars)
			Number (1,000)	Payroll (million dollars)	Number (1,000)	Hours (millions)	Wages (million dollars)				
2761	**Manifold business forms:**										
	Entire industry	810	49.5	934.0	36.2	71.1	634.3	2 490.7	2 563.1	5 058.7	135.4
	Establishments with 75 percent specialization or more	746	44.8	846.2	33.1	64.9	578.4	2 299.7	2 328.1	4 630.3	126.9
27612	Unit set forms:										
	Establishments with this product class primary	240	15.5	280.4	11.4	22.6	188.4	681.9	477.5	1 156.3	31.9
	Establishments with 75 percent specialization or more in class	97	5.8	103.9	4.4	8.7	72.4	280.1	189.5	467.9	14.1
27613	Manifold books:										
	Establishments with this product class primary	39	2.9	45.4	2.1	3.9	32.2	171.4	74.0	244.5	3.5
	Establishments with 75 percent specialization or more in class	26	1.6	27.2	1.1	2.1	16.5	109.1	35.1	144.0	1.9
27615	Custom continuous forms:										
	Establishments with this product class primary	178	18.1	359.1	13.2	25.6	252.0	921.9	781.8	1 710.3	50.8
	Establishments with 75 percent specialization or more in class	77	9.0	180.0	6.9	13.0	133.2	537.2	427.3	966.0	27.4
27617	Stock continuous forms:										
	Establishments with this product class primary	78	7.6	156.5	5.4	11.1	103.0	519.3	1 036.2	1 557.2	39.0
	Establishments with 75 percent specialization or more in class	44	3.1	64.5	2.1	4.2	38.4	204.3	477.1	680.9	21.7

Note: For qualifications of data, see footnotes on table 1a.

Table 6a. Product and Product Classes—Value of Receipts of All Producers: 1982 and 1977 —Con.

[Includes receipts for activities classified in this industry by (1) establishments classified in this industry (primary) and (2) establishments classified in other industries (secondary). For meaning of abbreviations and symbols, see introductory text]

1982 product code	Product	1982		1977	
		Number of companies with receipts of $100,000 or more	Value of product receipts[1] (million dollars)	Number of companies with receipts of $100,000 or more	Value of product receipts (million dollars)
	MANIFOLD BUSINESS FORMS				
2761- —	**Total**	**(NA)**	**4 812.2**	**(NA)**	**2 702.6**
27612 —	Unit set forms:				
27612 00	Unit set forms, loose or bound (includes all carbonless, carbonized, or carbon interleaved forms with an original and one or more copies, with or without stub), including food and beverage checks, multiple part tickets, etc.:				
	As reported in the census of manufactures	408	1 187.7	(NA)	885.3
27612 —	Unit set forms —Con.				
27612 00	Unit set forms, loose or bound (includes all carbonless, carbonized, or carbon interleaved forms with an original and one or more copies, with or without stub), including food and beverage checks, multiple part tickets, etc. —Con.				
	As reported in the Current Industrial Report MA-27A, Business Forms, Binders, Carbon Paper, and Inked Ribbons[6]	(NA)	1 158.9	(NA)	(5)
	Stock, including imprinted:				
27612 13	One-time carbon	(NA)	94.4	69	73.7
27612 15	Carbonless	(NA)	22.3	29	31.3
	Custom printed:				
27612 53	One-time carbon	(NA)	669.9	275	559.0
27612 55	Carbonless	(NA)	283.0	195	149.7
27612 61	Tabulating card sets	(NA)	43.4	14	46.4
27612 99	Unit set forms, n.s.k.	(NA)	46.0	(NA)	25.2
27613 —	Manifold books, including sales and pegboard accounting systems:				
27613 00	Manifold books, including sales and pegboard accounting systems:				
	As reported in the census of manufactures	71	238.5	(NA)	129.5
	As reported in the Current Industrial Report MA-27A, Business Forms, Binders, Carbon Paper, and Inked Ribbons[6]	(NA)	b229.1	(NA)	(5)
27613 11	Pegboard accounting systems	(NA)	b138.0	19	53.2
	Sales and other manifold books:				
27613 22	Stock	(NA)	b15.4	15	18.7
27613 42	Custom printed	(NA)	74.2	25	57.1
27613 99	Manifold books, including sales and pegboard accounting systems, n.s.k.	(NA)	1.6	(NA)	.5
27615 —	Custom continuous forms:				
27615 00	Custom continuous forms with or without carbon, marginally punched or not marginally punched (single or multiple copy custom forms usually printed on separate sheets which are fastened or unfastened):				
	As reported in the census of manufactures	261	1 731.6	(NA)	896.0
	As reported in the Current Industrial Report MA-27A, Business Forms, Binders, Carbon Paper, and Inked Ribbons[6]	(NA)	1 697.1	(NA)	(5)
	Custom tabulating cards:				
27615 23	One part	(NA)	b23.8	20	37.0
27615 27	Multiple parts	(NA)	b16.3	25	57.1
27615 51	Custom autographic register	(NA)	a31.2	14	28.5
27615 55	Self-mailer forms	(NA)	a80.8	12	39.4
	All other custom printed:				
27615 58	One part	(NA)	509.1	51	173.7
	Multiple parts:				
27615 62	One-time carbon	(NA)	678.8	92	435.3
27615 64	Carbonless	(NA)	280.8	53	83.2
27615 99	Custom continuous forms, n.s.k.	(NA)	76.5	(NA)	b41.7
27617 —	Stock continuous forms:				
27617 00	Stock continuous forms (single or multiple copy stock forms usually printed on separate sheets which are fastened or unfastened):				
	As reported in the census of manufactures	82	1 270.4	(NA)	622.2
	As reported in the Current Industrial Report MA-27A, Business Forms, Binders, Carbon Paper, and Inked Ribbons[6]	(NA)	1 196.5	(NA)	(5)
	Stock shelf forms:				
27617 61	One part	(NA)	490.9	45	170.5
	Multiple parts:				
27617 63	One-time carbon	(NA)	351.8	55	309.4
27617 65	Carbonless	(NA)	122.9	18	37.8
	Stock format forms:				
27617 71	One part	(NA)	94.2	23	36.1
	Multiple parts:				
27617 73	One-time carbon	(NA)	b48.8	32	41.8
27617 75	Carbonless	(NA)	b14.8	17	11.1
27617 79	All other stock forms, including stock cards, fanfold, and autographic register	(NA)	b15.6	13	8.7
27617 99	Stock continuous forms, n.s.k.	(NA)	57.6	(NA)	6.8
27610 00	Manifold business forms, n.s.k., typically for establishments with 5 employees or more (see note)	(NA)	290.4	(NA)	116.6
27610 02	Manifold business forms, n.s.k., typically for establishments with less than 5 employees (see note)	(NA)	93.5	(NA)	53.1

Note: In 1982 Census of Manufactures, data for establishments of small single-unit companies with up to 20 employees were estimated from administrative-record data rather than data actually collected from respondents. Employment cutoff used for administrative records for each industry and shipments figures are included in code ending with "002". In both 1982 and 1977 Censuses of Manufactures, products not completely identified on standard forms were coded in appropriate product class (five-digit) followed by "00" or to appropriate product group code (four-digit) followed by "000".

[1]Data reported by all producers, not just those with receipts of $100,000 or more.
[2]1977 data for product code 27512 23 include an unspecified amount printed by the lithographic process.
[3]For 1977, product code 27522 23 was included in product code 27522 00. In addition, an unspecified amount printed by the lithographic process may have been included with Industry 2751, Commercial Printing, Letterpress.
[4]For 1977, product codes 27531 00 and 27532 00 were included in product code 27530 00.
[5]1980 was first year of publication for Current Industrial Report MA-27A, Business Forms, Binders, Carbon Paper, and Inked Ribbons. 1977 data shown are from 1977 Census of Manufactures report for this industry.
[6]Percent of estimate of each 1982 item for Current Industrial Report, MA-27A, Business Forms, Carbon Paper, and Inked Ribbons is as follows: a=15 to 25 percent estimated; b=25 to 50 percent estimated.

Table 6b. Product Classes—Value of Shipments by All Producers for Specified States: 1982 and 1977—Con.

[Million dollars. Product classes covered are those that are economically significant and whose production is geographically dispersed, provided dispersion is not approximated by data in table 2. Also, product classes are not shown if they are miscellaneous or "not specified by type" classes. Statistics for some States are withheld because they are either less than $2 million in product class shipments or they disclose data for individual companies in 1982. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Product class and geographic area	1982 value of product shipments	1977 value of product shipments
27542, LABELS AND WRAPPERS, PRINTING (GRAVURE)		
United States	**437.4**	**276.2**
Illinois	20.5	22.4
Michigan	28.2	(EE)
New Jersey	14.6	(BB)
New York	17.8	10.3
North Carolina	82.7	45.6
Ohio	68.8	44.1
Pennsylvania	24.1	(FF)
Virginia	37.4	16.7
Wisconsin	27.6	18.7
27546, OTHER COMMERCIAL PRINTING (GRAVURE)		
United States	**102.7**	**91.5**
California	5.2	3.8
Illinois	16.3	5.1
Virginia	17.1	(NA)
27547, GRAVURE PLATES AND CYLINDERS		
United States	**89.9**	**62.3**
California	3.0	(BB)
Connecticut	5.8	(BB)
Missouri	5.1	(BB)
New Jersey	6.4	
North Carolina	7.8	(BB)
Ohio	10.9	5.0
Wisconsin	10.5	(CC)
27612, UNIT SET FORMS		
United States	**1 187.7**	**885.3**
Alabama	4.7	5.9
Arizona	7.7	5.9
Arkansas	11.6	10.0
California	134.0	90.2
Colorado	8.2	4.3
Connecticut	19.5	14.2
Florida	15.5	15.0
Georgia	25.3	23.6
Illinois	89.5	62.2
Indiana	28.8	19.5
Iowa	16.2	12.9
Kansas	24.8	25.1
Kentucky	21.4	16.3
Louisiana	11.2	7.3
Maryland	33.3	44.7
Massachusetts	17.2	17.1
Michigan	26.8	22.3
Minnesota	21.1	11.9
Missouri	36.0	22.1
Nebraska	4.2	5.0
New Jersey	35.6	22.3
New York	75.3	53.0
North Carolina	35.1	24.5
Ohio	96.5	71.4
Oklahoma	11.2	8.5
27612, UNIT SET FORMS—Con.		
Oregon	37.2	28.3
Pennsylvania	91.3	56.0
Rhode Island	5.6	5.0
South Carolina	6.7	3.5
Tennessee	13.2	5.5
Texas	97.2	60.5
Virginia	19.7	10.8
Washington	10.5	8.5
Wisconsin	28.0	30.6
27613, MANIFOLD BOOKS		
United States	**238.5**	**129.5**
California	35.9	22.9
Illinois	23.6	(CC)
Kentucky	18.7	(EE)
New Jersey	3.5	1.7
New York	11.1	6.4
Oregon	2.0	(AA)
Texas	14.9	4.8
27615, CUSTOM CONTINUOUS FORMS		
United States	**1 731.6**	**896.0**
Alabama	27.2	(CC)
Arizona	12.5	4.9
Arkansas	49.7	(FF)
California	163.1	104.9
Colorado	12.9	(BB)
Connecticut	52.1	22.9
Florida	27.0	9.4
Georgia	41.8	17.1
Illinois	168.0	96.9
Indiana	52.8	33.6
Kansas	31.4	11.3
Louisiana	12.0	3.5
Maryland	66.6	33.4
Massachusetts	16.3	8.4
Michigan	36.8	16.6
Minnesota	11.8	7.8
Missouri	22.0	(CC)
New Jersey	24.3	22.9
New York	62.2	34.8
North Carolina	19.6	10.2
Ohio	125.9	70.2
Oregon	20.1	(CC)
Pennsylvania	138.0	70.1
Tennessee	36.1	(AA)
Texas	130.8	62.7
Virginia	52.8	29.2
Washington	13.7	5.7
Wisconsin	41.0	23.3
27617, STOCK CONTINUOUS FORMS		
United States	**1 270.4**	**622.2**
California	188.4	91.2
Connecticut	11.9	19.6
Florida	17.8	6.5
Illinois	74.5	41.5
Maryland	33.6	(CC)
Missouri	47.5	6.9
New York	16.4	10.9
Ohio	62.4	32.5
Pennsylvania	237.4	118.6
Texas	102.9	49.8
Virginia	53.7	22.3

Note: For 1977, the following value ranges (in million dollars) substitute for actual figures withheld to avoid disclosing data for individual companies: AA—less than $2.0 but not 0; BB—$2.0 to $4.9; CC—$5.0 to $9.9; EE—$10.0 to $19.9; FF—$20.0 to $49.9; GG—$50.0 or more.

Table 7. **Materials Consumed by Kind: 1982 and 1977**—Con.

[Includes quantity and cost of materials consumed or put into production by establishments classified only in this industry. For further explanation, see Cost of Materials in appendix. For meaning of abbreviations and symbols, see introductory text]

1982 material code	Material		1982		1977	
			Quantity[1]	Delivered cost (million dollars)	Quantity[1]	Delivered cost (million dollars)
	INDUSTRY 2761, MANIFOLD BUSINESS FORMS					
	Materials, parts, and supplies		**(X)**	**2 378.7**	**(X)**	**1 298.4**
262111	Newsprint	1,000 metric tons	(S)	3.9	(X)	6.7
	Coated paper:					
262136	Coated, one side	1,000 s tons	(S)	20.4	(X)	22.6
262138	Coated, two sides	do	(S)	21.0	(X)	10.2
	Uncoated paper:					
262102	Groundwood, book, bond, writing, ledger, and manifold	do	**1 597.7	1 157.5	(S)	605.7
262150	Bristols, cover, text, and other specialty paper	do	*43.4	32.5	(S)	22.0
289301	Printing inks, complete formulations (all types)	mil lb	(S)	21.7	(S)	11.7
	Carbon paper:					
262164	Carbonizing tissue stock for conversion into one-time carbon paper	1,000 s tons	**72.4	72.5	100.3	72.5
395523	One-time carbon paper	do	**139.8	145.3	(S)	87.2
262163	Carbonless paper	do	*211.1	255.6	*110.3	101.3
970099	All other materials and components, parts, containers, and supplies		(X)	331.7	(X)	*214.9
971000	Materials, parts, and supplies, n.s.k.[2]		(X)	316.6	(X)	143.6

[1]For some establishments, data have been estimated from central unit values which are based on quantity-cost relationships of reported data. The following symbols are used when percentage of each quantity figure estimated in this manner equals or exceeds 10 percent of published figure: * 10 to 19 percent estimated; ** 20 to 29 percent estimated. If 30 percent or more is estimated, figure is replaced by (S).

[2]Total cost of materials of establishments that did not report detailed materials data, including establishments that were not mailed a form.

[3]For 1977, material code 262132 was combined with code 262134.

[4]For 1977, material code 262133 was combined with code 262135.

[5]For 1977, material code 262107 was combined with code 262151.

[6]For 1977, material code 262109 was combined with code 262152.

[7]For 1977, material codes 263105, 220011, and 279512 were included in 970099.